THE UNIVERSITY OF ALBERTA

THE VALIDITY OF THE CHILDREN'S DEPRESSION INVENTORY AS A SCREENING INSTRUMENT FOR ELEMENTARY SCHOOL CHILDREN

by

Cynthia Blackman

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DEDICATION

This thesis is dedicated to my husband Maurice, sons Adam and Steven and to my mother Rose, who made their love, support and encouragement available to me at all times.

ABSTRACT

The major purpose of this study was to determine if the Children's Depression Inventory is a useful screening measure for childhood depression. A further objective was to establish if childhood behavior and conduct problems, hyperactivity, and school related difficulties were associated with the syndrome of childhood depression. This objective was examined utilizing the Conner's Parents' Symptom Questionnaire. The study also involved an examination of the frequency of depressive symptoms as measured by the Children's Depression Inventory in a normal school sample. Child and parent self-report rating scales were used, and compared with a clinician's rating of childhood depression.

The main analysis was one-way analyses of variance and correlation coefficients were calculated to determine the degree of association between: (a) the Children's Depression Inventory and the clinician's rating of childhood depression; (b) the Children's Depression Inventory and the Conner's Parents' Symptom Questionnaire; and (c) the clinician's rating of depression and the Conner's Parents' Symptom Questionnaire. A descriptive analysis was conducted on the Children's Depression Inventory test profiles of the normal school sample.

Findings of the study indicated that the Children's Depression Inventory may be used to identify children with depression, and can be used to assess the severity of depression. Anti-social behavior, hyperactive and impulsive behavior as measured by the Conner's Parent's Symptom Questionnaire were also found to have a significant relationship to depression. Results from the analysis of the normal sample demonstrated that many normal children evidenced some behaviors usually attributed to depression, but that these behaviors may be developmentally determined and not an indication of psychopathology.

Research results emphasized the need for empirical investigations into the depressive syndrome in children, including controlled and prospective studies with particular effort to ensure homogeneity of samples. It appears that there is a spectrum of depressive disorders in children, whose etiologies and classification are yet to be determined. The relationship of normal affective and cognitive development in children to childhood depression is presently poorly understood and requires further study.

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CHAPTER I

INTRODUCTION

The educator must be cognizant of the presence of student's emotional problems which appear in the classroom, and which may interfere with the learning process. It has been reported that 9% to 16% of children do have significant emotional difficulties (Howells, 1971; Schwarz-Gould, Wunsch-Hitzig and Dohrenwend, 1981). In particular, the depressive syndrome has been implicated in a wide range of school-related problems including learning disabilities, school-refusal, anti-social behavior and academic under-achievement (Agras, 1959; Zrull, 1970; Lesse, 1974). Recent studies "have demonstrated that depression is an important cause of childhood behavior problems (possibly as common in children as in adults) and that diagnosis can often lead to successful treatment" (Brumback and Weinberg, 1977(a), p. 912). To suggest that depression is at the root of all educational problems is of course an oversimplification. However, depression may play a significant part, either primary or secondary, in the occurence of many school-related difficulties. Alleviation of the depression may enhance the child's success and satisfaction with both schoolwork and interpersonal relationships.

Background to the Study

Depression is a term used to denote a temporary feeling state, a symptom of many conditions both physical and mental, or a primary syndrome with its own particular characteristics. Three conditions are considered basic to the depressive syndrome. First, a deep pervading sadness; second, concentration and attention problems with cognitive disturbance; third, a reduction in appetite and sleep. Further features of the syndrome include work related and interpersonal difficulties, and a poor self-concept with low self-esteem (Arieti, 1974). Birelson (1981) defined the depressive syndrome succinctly as:

> a specific affective behavior pattern where there is impairment of the individual's ability to function effectively in his or her environment and which persists for some time. (Birelson, 1981, p. 74)

In adults the depressive syndrome has been recognized for many years, and it has been estimated that one in eight adults will seek professional help for affective illness (Freedman and Kaplan, 1975). However, in children the concept of depression has only recently gained acceptance, and as late as 1959 a leading child psychiatric textbook by Kanner did not mention its existence. This reluctance to recognize the concept of childhood depression may have both sociological and psychological roots. Society as a whole views childhood as a happy, carefree time, which should not be marred by such a sad state as depression. Adults, when perceiving a sad child try to cheer him/her up, presuming the

sadness to be evidence of a minor disappointment that should pass with time. Sometimes this sad behavior is misconstrued as "sulkiness" or insolence and may be punished. Schulterbrandt and Raskin (1977) summed up the situation when they stated that:

> Today the public recognizes depression and many of its consequences in the older teenager and the adult. Much of this recognition stems from research efforts over the past 30 years. Perhaps our cultural mythology is responsible for the non-recognition of depression in children. That mythology sketches childhood as the age of innocence, of no responsibilities, of play and happiness. It allows us to see children as at times sulking or being moody or mad, bad, or glad, but for the most part they are to be joyful. (p. 147)

From a psychological perspective, difficulties are encountered because of the psychoanalytic viewpoint that prepubertal children do not have the mental capacity to experience deep depression. Further problems include the lack of sound empirical studies, and the changing manifestations of depression in children. The type of symptoms appearing in childhood depression appear to be dependent on age, and level of cognitive and affective development, leading to problems in finding agreed upon criteria for operational definitions. Lefkowitz (1978, 1980) has even suggested that many of the traditional signs of depression such as tearfulness, sadness and withdrawal are normal developmental occurrences in childhood, and should not be considered pathological. Adding to an already difficult situation, children rarely seek professional help voluntarily, but are referred by teachers or parents. The referral usually relates to behaviors seen as

anti-social or not in keeping with expectations considered appropriate at a a specific age level. Many of these behaviors including learning difficulties, aggressiveness, school refusal and hyperactivity are often dealt with as if they were the primary problems, and are not considered as emotional difficulties. Because of these disagreements and the heterogeniety of the samples studied in the literature, incidence figures have ranged from 0.8 percent to 63 percent (Rutter, Tizard and Whitmore, 1970; Birelson, 1980; Kashani, 1981; Herzog and Rathbun, 1982). However, the concept of childhood depression was formally given approval at the Fourth Congress of the Union of European Paedopsychiatrists in Stockholm in 1971, which concluded that "depressive states account for an important and relatively large share of mental disorders in children" (Kashani et al., 1981, p. 144). Further research has endorsed this view and the consensus is that childhood depression is a viable entity. (Poznanski and Zrull, 1970; Rutter and Tizard, 1972; Weinberg et al., 1973; Puig-Antich et al., 1979; Kashani et al., 1981).

The Relationship of Childhood Depression to Education

It has been suggested that many school related and academic problems are associated with depression. Lefkowitz and Tesiny (1980), in a study of 1,000 children found that children who were diagnosed as depressed displayed many of the following problems: reduced intellectual functioning, lower scores on standard achievement tests especially math

and reading, and persistent low achievement. These children were also noted to have poor school attendance, were less popular, were often unhappy, had low self-esteem, and many came from lower socio-economic backgrounds. Other studies have confirmed that a change in school attitude and performance was related to depression (Weinberg et al., 1976; Kashani et al., 1981). Behavior and conduct disorders have also been implicated, and Glaser (1967) suggested that inappropriate behaviors diverted attention from the real problem, and successfully "masked" or overshadowed the depression which was then overlooked. This view has been supported by many authors including Ling et al., 1970; Cytryn and McKnew, 1972, 1980; Carlson and Cantwell, 1980; Colbert, 1982.

Another key discussion point concerns the relationship of learning disabilities to depression. It has been documented that many children with learning problems often have associated school behavior and conduct problems which may be evidence of depression. Colbert (1982) stated that "depression results in poor school performance in children who are intellectually capable and without a specific learning disability" (p. 336). Brumback and Staton (1980) commented that "we believe, that at least one, non-brain damage 'emotional' disorder, childhood depression, may significantly impair cognitive functioning, and that this cognitive functioning may be sensitive to drug therapy" (p. 163). These points may have some justification, since as

described in the literature on adult depression, impairments of concentration and difficulty in thinking are important manifestations of the depressive syndrome (Freedman and Kaplan, 1975).

A group of 282 children aged 6 - 14 years that were referred to a Child and Family Psychiatric Unit were examined for a variety of emotional disorders. An intensive test battery revealed that 133 children (54%) were suffering from depression. Of these children, 7% were considered truly learning disabled although initially 53 of these children had been considered learning disabled by their teachers (Colbert, 1982). Poznanski (1982) pursued this matter further, and suggested that the true learning disabled child could easily be distinguished from the depressed child by careful examination. She theorized that depressed children would show satisfactory scholastic attainment at previous grade levels prior to the onset of the depressive syndrome, and that any variability in academic performance would be due to fluctuation in mood. The learning disabled child usually has had a history of school related problems since grade one or kindergarten. Poznanski also noted that the depressed child has usually had concentration difficulties as a result of internal preoccupations, while the hyperactive child has had attention deficit problems as a result of external stimuli.

In summary, it can be seen that failure to recognize childhood depression may result in the misclassification of

children as "learning disabled", "unmotivated" or as having a "conduct disorder". This may result in remedial failure, and a worsening of the situation for the child and educator, both of whom may feel hopeless and helpless to make changes.

Significance of the Study to Education

It would be impractical to train all educators in the necessary skills for diagnosing depression, or to refer every child with a learning or behavioral problem to an expert clinician. However, recognizing that depression can exist in childhood, and that it may be a significant barrier to learning can be a step in the right direction. This of course implies that methods of screening must be found to identify those children whose school difficulties relate to depression. The most practical solution to this problem so far, has been the development of relatively simple to administer and easily to score tests which could be utilized by school personnel with little extra training. One test in particular, the Children's Depression Inventory CDI (Kovacs, 1978) appears to be of value. This test, if successfully validated, would be a useful screening device allowing early recognition of the depressive syndrome in elementary school children, and thus early intervention and remediation would be possible.

An overview of rating scales and other tests of childhood depression will be presented in Chapter II, and a more complete account of the Children's Depression Inventory

which has been utilized in this study will be discussed in Chapter V.

Purpose of the Study

A significant number of school children have learning difficulties which interfere with their academic progress and school performance. Initially, these difficulties may appear to be purely educational, but closer inspection often reveals an underlying emotional problem which impedes the learning process (Colbert et al., 1982; Hollon, 1970; Poznanski, 1982). Children may also exhibit behavioral and conduct disorders, aggressiveness or withdrawal which may also interfere with their ability to learn (Brumback & Weinberg, 1977(a); Burks, 1962). In the classroom these various disturbances are often dealt with in a disciplinary fashion while the underlying emotional difficulties go undetected and unresolved.

The depressive syndrome has been implicated as an important underlying cause of both learning and behavioral difficulties, and its recognition in children may enable the necessary steps to be taken toward remediation. However, as already mentioned, because of its variable presentation in children, depression is often difficult to detect without a clinical assessment. It would be of considerable value if a valid assessment method was available for identification of depression in the classroom which could be utilized by the classroom teacher or school counsellor. It is proposed in

this study to examine the Children's Depression Inventory CDI (Kovacs, 1978) in order to determine its validity as a screening device for the identification of childhood depression in the classroom. This rating scale will be fully described in Chapter III.

Many children may suffer from a mild or temporary depression, while others may experience a more chronic or long lasting condition of much greater significance. A screening device for depression should ideally identify those children who have severe depression from those with milder forms, enabling some decision making in the classroom regarding appropriate intervention. It is intended in this study to investigate whether the Children's Depression Inventory meets these requirements by making a comparison between the CDI scores of a clinic sample, and a clinician's rating of the severity of children's depression in the same sample.

Children who are depressed may not behave in a way similar to depressed adults. Typically, the depressed adult will exhibit tearfulness, sadness, withdrawal, and express feelings of hopelessness. However, many children may demonstrate their depression by acting out behavior, stealing, aggression, delinquency, learning difficulties or school failure (Carlson and Cantwell, 1980). While all of these behaviors have been associated with depression, some may be more typical of depression than others and should alert us to to this fact, even though the child does not ostensibly

appear to be depressed. However, as yet, it appears that there is no clear agreement as to whether these deviant behaviors do in fact represent childhood depression. To examine this question it is proposed to administer the Conner's Parent's Symptom Questionnaire CPSQ (Conners, 1970) to the parents of children in the clinic sample used in this study. The results of this questionnaire should be useful in determining whether observed behaviors such as learning problems, eating and sleeping disturbances, fears and worries and anti-social behavior, are in fact related to childhood depression. In Chapter III the CPSQ will be presented in more detail.

Finally, despite the recent acceptance of the concept of childhood depression, some authors still consider the syndrome invalid, especially as an analogue of adult depression. Adherents to this view suggest that many behaviors accepted as evidence of depression, such as sadness, irritability, tearfulness and withdrawal appear in children as a transitory phenomena, and are part of the normal developmental process (Lefkowitz and Burton, 1978; Lefkowitz, 1980). An investigation of the literature did not reveal any satisfactory conclusion to this debate. To examine this problem, a descriptive analysis will be undertaken of the results of the Children's Depression Inventory items administered to a normal school sample. If the responses to particular items on the CDI occur with high frequencies at specific ages, then it may be assumed that

these responses are normal at that age and should not necessarily be considered as evidence of depression.

For the purpose of this study childhood is understood to refer to children between the ages of seven and thirteen years attending grades two through grade six. The term childhood depression is the syndrome defined in the Diagnostic and Statistic Manual of Mental Disorders (DSM III, 1981). This syndrome is fully described in Appendix I.

Summary

It is hoped that this study will provide a better understanding of the depressive syndrome in children. If the CDI is accepted as a valid screening device for childhood depression it can serve as a useful tool for teachers in the classroom setting. In particular this study was undertaken to validate the Children's Depression Inventory as an instrument for the diagnosis of depression in children, and to ascertain whether the Children's Depression Inventory could indicate the severity of this depression. It was also intended to investigate the importance of behavioral, conduct and learning difficulties in children in relation to the depressive syndrome. Finally, it will be determined whether behaviors associated with depression such as sadness, pessimism, withdrawal and suicidal ideation as measured by the Children's Depression Inventory, may in fact be normal developmental occurrences in children, and not indices of psychopathology.

A review of the relevant literature will be presented in Chapter II which will include some theoretical models of depression, and an account of the classification, diagnosis and test instruments for childhood depression. Chapter III contains the research design of the study, and the procedures used in the data collection. The analyses of the data and results will be presented in Chapter IV. Finally, Chapter V will deal with the significance of the findings and the implications of these findings, along with suggestions for future research.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter will prevent a review of the relevant literature on childhood depression. A short historical account of the development of depression as a syndrome, followed by a discussion of some psychological theories will be presented. Particular attention will be focused on childhood depression and its diagnosis and classification. Finally, a description of certain test instruments used for the diagnosis of depression in children will be outlined with reference to their limitations and usefulness for educators. For the purpose of this study, biochemical, genetic and neurophysiological theories of depression will be omitted.

Historical Perspective

The mood state of depression, or melancholia as it was often known, has been familiar to society since ancient times. However, until Kraepalin in 1902 undertook the task of classifying mental disorders, no scientific method had been applied to the study of depression. Kraepalin divided mental disorders into three types. These were neurestheni a (neuroses), dementia praecox (schizophrenia) and manic-depression. He also discovered that dementia praecox and manic-depression could begin in early adolescence, but he did

not comment on these illnesses in childhood (Freedman and Kaplan, 1975).

The question of childhood depression was largely overlooked until 1946 when Spitz described the presence of a condition called anaclictic depression in institutionalized babies. These infants were apathetic, withdrawn and refused to eat with the syndrome often ending in death. Spitz postulated that the illness occurred because the infants had not been picked up or held, but that this inadequate emotional nurturing could be reversed if dealt with early enough (Harrison and McDermott, 1972). Bowlby (1960) also described the deleterious effects of mother-infant separations during the first three years of life. He related these effects to the lack of necessary bonding which predisposed the young infant to later depression (Renshaw, 1973; McKnew and Cytryn, 1973).

Klein (1948) and Mahler (1961) both psychoanalysts described the presence of depression in infants and young children. They hypothesized that infants went through developmental stages during which depression was a normal event. Adequate nurturing allowed the infant to successfully negotiate these stages, but failure to meet the child's needs could lead to depression in later life (Lowenstein, 1966).

Anthony in 1960 was the first to describe childhood depression as a syndrome similar to adult depression, with tearfulness, sadness, appetite and energy loss (Welner, 1978). A further advance occurred in 1967, when the Group for

the Advancement of Psychiatry published an account of childhood depression including such features as stealing, aggression, conduct disorders and learning difficulties. In Europe, childhood depression had been more readily accepted, with the focus being on biological rather than psychological theories. Also, more rigid diagnostic criteria were insisted upon than in North America, and treatment in Europe has been primarily psychopharmocological (Murray, 1970; Noshpitz, 1979).

In summary, one can see that the concept of depression has been known for many years, with the psychological and psychiatric literature mainly concentrating on research in adult depressions. It was not until the early part of this century that an attempt was made to formally classify mental illness, and not until 1945 that a depressive syndrome was reported in infants. Controversy over the existence of a depressive syndrome in children has continued since, although in recent years it has generally been accepted that children may have a depressive syndrome similar to that seen in adults. These issues will be explained in more detail in the succeeding sections.

Theoretical Aspects of the Depressive Syndrome

In order to understand the difficulties in arriving at an operational definition of childhood depression, it is necessary to present an overview of the main psychological theories related to depression in general. The psycho-

analytic, cognitive and behavioral theories, will be discussed and their relevance to the debate concerning childhood depression will be demonstrated.

Psychoanalytic Theories

The first psychoanalytic theory of depression was enunciated in 1912 by Abraham. He considered depression and grieving to be similar problems, but thought that in depression there was anger towards the "lost object" which led to strong feelings of guilt and self recrimination. Abraham related depression to unresolved problems during early psychosexual development, depression being related to the oral and anal sadistic developmental stages (Freedman and Kaplan, 1975; Noshspitz, 1979).

In 1917 Freud expanded on Abraham's theory in his book Mourning and Melancholia. He enlarged on Abraham's concepts and made some additional and somewhat differing comments. He considered mourning and depression as similar but said that in mourning the loss was real and external, rather than an internal or intrapsychic loss. Both of these states presented the same outward appearance, however mourning was considered a healthy reaction. The sense of internal loss which led to depression was supposedly related to early developmental problems in respect to parent-child issues. It was thought that the anger felt by the infant as a result of frustrations imposed by the parents, was turned inward to be directed against the "introjected" or

internalized parent. In the depressed adult this anger erupted and was directed against the self. Furthermore, it was suggested that the depressed adult had an unusual propensity for guilt which was associated with strong childhood parental admonitions. Freud's theories emphasized the "superego", the "ego" and "id"; that is the battle between the infant's primitive impulses and his control over them. A rigid and harsh superego was considered necessary for depression to occur (Freedman and Kaplan, 1975).

Later psychoanalytic theories placed more emphasis on the role of the ego, or self in depression. Anna Freud suggested that the ego developed a series of defense mechanisms to protect itself against stress. The ego was therefore responsible for organizing the individual's internal drives so as to make the most appropriate adaptation to the external world. Other ego theorists stressed the role of self-esteem in depression. Bibring defining depression as:

> the emotional expression (indication) of a stage of helplessness and powerlessness of the ego irrespective of what may have caused the breakdown of the mechanism which establish his self-esteem. (Freedman and Kaplan, 1975, p. 545)

In terms of childhood depression, Klein described the "depressive position" as depression occurring in the child as a developmental phase. This was normal and necessary in the child's separation of self from the mother, and was expected at approximately six months of age (Arieti, 1974). The importance of the mother-child relationship was also

emphasized by Mahler who spoke of "object constancy". This referred to the need for a stable parent figure in infancy to ensure entry into healthy adulthood (Mahler, 1966). Again these theorists emphasized the role of early developmental experiences predisposing the child to depression. Childhood depression was not considered as a syndrome, but as a developmental phase.

The lack of appreciation of a childhood depressive syndrome can be traced back to the basic tenets of psychoanalytic theory. In this view depression requires a fully functioning and developed superego and ego. In particular, the presence of a harsh and rigid superego is considered essential. The child is not seen as having a well developed intrapsychic structure, and the lack of superego makes any prolonged self-recrimination impossible. According to psychoanalytic theory, the superego is not fully developed until late childhood or early adolescence, therefore the depressive syndrome could not be possible in childhood (Rie, 1966).

The traditional psychoanalytic approach does not receive total agreement even amongst psychoanalysts. Spitz and Bowlby recognized, from their clinical observations, the importance of mother-child relationships and bonding for normal child development (Harrison and McDermot, 1975). They accepted the presence of depressive states in infants and young children as a result of prolonged parental loss and deprivation. However, they did not consider these as

depressive syndromes, but rather as reactions to external precipitants which could be reversed if the situation changed for the better (Harrison and McDermott, 1975). They did, however, recognize that emotional deprivations could predispose infants to later depression.

Sandler and Joffee (1965), described childhood depression, as "a 'psychological affective' reaction as a result of actual helplessness induced by a real physical or psychological threat" (p. 90). They also argued that if a childhood depressive syndrome existed that was similar to adult depression, then manic-depression and psychotic depression should occur just as frequently in children as in adults. These latter conditions are thought to be extremely rare in childhood suggesting that depression in childhood and adulthood are not the same. Sandler and Joffee (1965) examined 100 case histories of depressed children, and concluded that the depressions were temporary, and induced by adverse environmental situations. The depression could be alleviated by resolving the adverse situations.

Another viewpoint has been expressed by Malmquist (1971) who suggested that there may be more than one type of depression in children. Malmquist proposed a classification system based on developmental, biological and environmental factors, and believed that depression in children depended on the interaction of these variables. In some cases the psychoanalytic perspective might provide the best explanations, especially if the depression was stimulated by

an environmental disturbance. In other situations the depression might be sustained and similar to adult depressive syndrome.

In summary, psychoanalytic theories of depression are based on the premise that depression occurs as a result of faulty nurturance and faulty parent-child relationships in infancy and early childhood. This results in poor object relations, poor self-esteem and a self-critical attitude which renders the individual susceptible to react to stresses in later life by becoming depressed.

Adherents to the psychoanalytic viewpoint have some doubts as to the presence of a depressive syndrome in childhood, since the child's psychic structure is not considered fully developed. Therefore, depression in childhood is accepted as a temporary reactive condition, rather than an intrapsychic phenomena with a prolonged feeling state, as in adult depression. Psychoanalytic approaches to the subject of childhood depression have been criticized because of the subjectivity of their methodology. Much of the information is anectodal, and based on retrospective adult case studies with little empirical research. However, these theories have been helpful in bringing to our attention the stages of childhood development, and has alerted researchers to the possibility that childhood and adult depression may appear different because of the child's maturational level, rather than because of real intrinsic differences.

Cognitive Theory

Classical psychoanalytic theory deals with emotions, and considers the human character (ego), the result of the modification of primitive instinctual drives (id) by the influence of parental, and later societal restrictions (superego). Little attention is focused on cognitive aspects of personality, except as secondary to emotional life, the emphasis being on how the emotions effect the thought processes. Cognitive theory on the other hand, emphasizes the importance of the thought processes or cognitions in mediating personality development, and focuses on the thinking as well as the feeling state. The cognitive state of the individual has been described as "an inner reality which may represent, substitute for, distort, enrich or impoverish the reality of the external world" (Arieti, Vol. I, 1974, p. 879). During development the child absorbs all of his experiences by building up an inner mental representation of his environment. This programming modifies the way s/he will perceive their environment in the future. Piaget made a significant contribution to cognitive theory with his ideas concerning the development of thought processes in the child (Ariet, 1974). He considered cognitive development as occurring separate from emotional development. Initially, the infant experienced events as

> pure action at the sensory motor level, but that gradually this action was internalized into mental representations, so that the schemas become truly cognitive . . . so that there is a progressive freeing of thought from its concrete surroundigns, culminating in abstract schemas that are totally independent of concrete experience. (Arieti, 1974, p. 343)

Cognitive theory views depression as a result of cognitive distortions which would lead the individual to view himself in a negative way. A leading cognitive theorist, Barnett, suggested that the cognitive process was central to the understanding of character development (Arieti, 1974). For example, he viewed obsessional neuroses as being a result of faulty cognitive patterns, rather than emotional fears. Barnett redefined cognition as "a broad form of experential knowing that included both thought and affect as part of a continuum rather than opposing factors" (Arieti, p. 881). Bemporad (Arieti and Bemporad, 1978) has also studied cognitive processes especially in depression. He considered depression to be the result of a false self-concept based on others' expectations, and related to dependency rather than to one's own internal reality. It has been pointed out by cognitive theorists that if an individual thinks he is rejected, then he will react in the same way emotionally as if he really is rejected. These concepts or cognitions are developed early in life as a result of the young child's early experiences. Self-concepts are formed which influence the judgment of later events. If a negative self-concept persists it becomes a permanent part of the person's cognitive organization. For

example, Lichtenberg considered depression to occur as a result of "felt hopelessness to achieve one's goals when the individual blames himself for his failures" (Arieti, 1974, p. 73).

One of the most prominent cognitive theorists in the area of depression is Beck (1961, 1967, 1970, 1974, 1979) who has also developed a cognitive therapy and a depression inventory which has been extensively used and validated with adults. Beck (1974) considered depression to be the result of three interacting cognitive patterns, with the individual viewing himself and his environment in terms of loss and deprivation. First, there is a negative view of the self, with the individual seeing himself as worthless, inadequate and undesirable. Second, experiences are interpreted as representing failure and defeat. Even if an individual is doing an adequate job, he will see himself as failing, and view the world as a succession of insurmountable obstacles. Lastly, the individual also views his future in negative terms. He anticipates continued suffering and hardships, and believes that these hardships will continue indefinitely. This pattern is called the "cognitive triad" which results in distorted and unrealistic ways of thinking.

Beck theorizes a "matrix of schemas" which are internal thought patterns or programmes which the individual uses to evaluate his situation. These "schemas" are screening, coding and evaluating mechanisms used in order to conceptualize an object or idea. For example, when a

situation arises, the individual checks it with an internal schema or construct consisting of his own built in attitudes, values and ideas. With the aid of these schemas, an experience is molded into a cognition which governs his reactions to the situation. Consequently, there is an interactive process between already learned material and new information.

If a schema can be considered as transforming raw data into cognitions, a non-depressed person would be assumed to have fairly accurate representations of reality. However, the depressed person has "idiosyncratic schemas" which dominate his thinking, so changing a benign situation into one with special meaning to the individual, thus reinforcing his depression. In depressed individuals idiosyncratic schemas become dominant and automatic, disrupting the choice of more appropriate or alternative cognitions. For example, a reprimand over a job not well done, may be magnified into a comment about the integrity of the individual, leading to massive self-recrimination and loss of self-esteem. Beck suggested that this idiosyncratic process is present in a latent form in most people, but is activated in relationships to the effect a particular situation has on the individual's inner world or "domain". This personal domain is made up of all the aspects of an individual, including sense of self, ideals, principles, self attributes and valued objects (Kovacs and Beck, 1978).

In addition, Beck postulates that "depressive schemas" have certain particular qualities as follows: (1) they interpret life information in such a way that they counteract parts of the individual's personal domain, and devalue it; (2) they have a circular and reinforcing effect, in that the more negative and pessimistic a person is, the more depressed he becomes, which in turn induces more negativity and depression; and (3) there is cognitive distortion. Furthermore, the depressed person makes inferences based on internal rather than external reality. He may over generalize, exaggerate minor events into major disasters and focus on details which continue to reinforce his negative views. There is also a tendency for "personalization", in which the personal significance of events are over estimated, so that the individual becomes egocentric and attributes a great deal more importance to themselves than is actually evident (Beck, 1970, 1974). An example might be the depressed person who interprets an angry expression on someone's face as directly related to something they have done, when in fact there is no relationship. Other forms of cognitive distortion include underestimation of one's own ability, exaggerating minor traumas, overgeneralizing from minor incidents, taking details out of context, drawing negative conclusions without any evidence. These individuals tend to be fixed in their beliefs, and are convinced that there can be no change.

Depression in children presents no problem for the cognitive theorists, since cognitive schemas are being built up from birth onwards. Arieti (1974) has conceptualized two levels of cognitions in childhood. Primary cognitions are associated with the pre-language stage of infancy. They are considered to be pre-logical, relating to images of important adults in the environment which the child remembers, and associates with either good or bad experiences. Secondary cognitive processes occur when the child is able to reason, and is consciously aware of the meaning of events in his environment. The child may develop negative or idiosyncratic schemas relating to his inability to obtain gratification from the mother. These initial idiosyncratic schemas may be reinforced by later negative experiences such as school learning difficulties, or inability to live up to parental or societal expectations, thus leading to depression. Beck and Kovacs (1974) postulated that since the same mechanisms are at work in children as in adults, then a depressive syndrome is possible and would appear similar in both cases. For example, chronic rejection by parent and peers, prolonged stress and too high expectations all "predispose the individual to overreact to analagous conditions in later life" (Schutlebrandt and Raskin, 1977 p. 22). This point may have implications in the educational setting where the inability of a child to meet the academic expectations of parents and teachers, may lead to a sense of personal failure, low self-esteem and

eventually a self-reinforcing pattern of rejection leading to depression.

Criticisms have been directed at the cognitive theory of depression. While accepting that cognitive theories of depression may be accurate, it is not clear whether the cognitive state is cause or effect. It has been noted that although a modification of an individual's cognitive state in a positive direction may improve the depression, there is no direct evidence that the change in mood was caused by the cognitive change or by other associated factors. Other researchers have suggested that depression may in fact rely on a circular feedback model, of which cognition feeds into affect and affect in return impinges on cognition. Although Beck indicated a "depressive prone" personality, the etiology of the "cognitive triad" is still very obscure (Schulterbrandt and Raskin, 1977). Nevertheless, there are many advantages to the cognitive theory, most important being the fact that the concepts are easily operationalized and lend themselves to empirical verification. Cognitive theory is of special importance to the present study since it provides the basis of the Children's Depression Inventory, and acknowledges that a syndrome of childhood depression may exist similar to the adult depressive syndrome.

Behavioral Theories of Depression

In behavioral terms, depression does not imply an intrapsychic or biological etiology, but refers to a cluster of observable behaviors. Behaviorists study depression by analyzing these observable depressive behaviors, and by exploring their antecedents and precipitants in relationship to the individual and his environment. McClean suggested that the depressive syndrome is believed to occur as a result of faulty cognitions leading to dysfunctional behaviors, which in turn result in physiological disturbances such as sleep and appetite problems and fatigue all considered part of the symptoms of depression (Arieti, 1981). McClean also considered depression to be "the result of the loss of ability to effectively control one's interpersonal environment" (Kashani, 1981, p. 149). Three major behavioral theories of depression will be discussed in this section, all of which are pertinent to the study in terms of prevention and remediation of childhood depression especially in the classroom setting.

Ferster (1974) hypothesized that depressive behavior developed as a consequence of insufficient reinforcement. The individual is unable to obtain enough positive reinforcement from his environment to maintain an adequate level of adaptive behavior. This reduction in contingency relationship between adaptive behavior and positive reinforcement leads to a gradual withdrawal, isolation and self-doubt resulting in the depressive syndrome. Ferster

accentuates the environmental determinants that could account for an individual's inability to elicit sufficient positively rewarding behaviors. For example, if someone changes jobs, they may be unable to learn the necessary responses in a new and alien situation; or in a bad marriage, the negativity of the situation may preclude generating behaviors that are positively reinforced, and despite all endeavors these situations would lead to depression.

Lewisohn (1976) elaborated on this model, and suggested that for depressive behaviors to transpire, a number of conditions must be created. Initially there should be such a low rate of contingent - positive reinforcement that the individual becomes disinterested, tired and socially withdrawn. This in turn lessens the chance of obtaining positive - contingent reinforcement from the environment, so ensuring a continuation of the depressive behaviors. The circumstances under which this is likely to happen requires both a susceptible individual, and an environment in which the possibility of obtaining sufficient contingent - positive reinforcement is decreased. This is an interactional model, which implies that the differences between depressed and non-depressed individuals are both qualitative and quantitative. For example, a job promotion generally is thought of as providing strong positive reinforcement. However, in a particular individual this could lead to depression because of: (1) increased stress and

responsibility which cannot be dealt with; (2) a loss of support of previous colleagues, and the need to develop new relationships and prove competence at a different level; and (3) the anticipated rewards of the promotion may be less than expected in terms of salary, benefits, etc. These conditions could lead to a depressive behavior pattern, which once it is established is often reinforced and maintained. A great deal of sympathy and support may be offered to the depressed individual, which inadvertently reinforces the depressed behaviors leaving little hope for changing this pattern into one that elicits contingent - positive reinforcement.

Seligman (1975) took a slightly different approach by concentrating on the issue of helplessness, and the feeling of loss of control over the environment which is evidenced by the depressed individual. Seligman stated that depression occurred when there was "a perception of independence between one's responses and the onset or termination of aversive events" (Schulterbrandt and Raskin, 1977 p. 136). This work was based on experiments with animals who were exposed to conditions in which an aversive stimulus was applied allowing no avenue of escape. The animals became passive and listless, a situation that Seligman considered analogous to depression.

Seligman's theories received some support from studies with children. These showed that those children who believed that their failure to complete a task was due to factors

beyond their control became passive and ceased trying, while those children who did not share these beliefs continued to attempt to find alternate solutions to a task despite initial failures (Seligman, 1974). Also, it has been demonstrated that when normal adults were continually exposed to tasks in which they were not allowed to succeed, they became despondent, powerless and withdrawn (Schutlebrandt and Raskin, 1977).

This theory may have relevance. Children with unrecognized learning or emotional problems, may be unable to meet classroom expectations despite their best efforts. Their constant failure often exposes them to aversive stimuli from which there is apparently no escape. These children may become passive, appear helpless and finally withdraw from the learning experience. Awareness of this process could alert teachers to the need to provide the child with "a wide repetoire of coping responses which he could use in future situations where he found he could not control reinforcement by his usual responses" (Seligman, 1974, p. 153).

Basically, behavioral theorists view depression in terms of descriptive observable behaviors. This approach facilitates empirical research, and allows for good operational definitions without the problems associated with psychoanalytic and cognitive theories which deal with hypothetical constructs. There has been criticism of the behaviorists because of their use of animal experiments to generate explanations of human behavior. Also the

behaviorists use normal volunteers as laboratory subjects with the results being applied to depressed groups. Furthermore, behavioral theories have not accounted for individual differences. There is no explanation offered as to why some individuals respond to stress with depression, and not others or why previously rewarding activities should suddenly cease to be gratifying. Classification of depression subtypes has not been dealt with, and observed depressive behaviors are seen as common to all depressions. Despite these drawbacks, behavioral theories of depression have some relevance particularly in terms of remediation and treatment. Behaviorism views depression in terms of measurable observable behaviors, and these behaviors can be modified using appropriate behavioral management techniques, extinguishing undesirable behaviors and introducing a more adaptive repetoire of responses.

In summary, three main major psychological approaches relating to the etiology of the depressive syndrome have been examined. Their relevance to the problem of operationally defining and understanding childhood depression have been alluded to, with comments as to their particular strengths and weaknesses.

The Diagnosis and Classification of Childhood Depression

This section will continue with a discussion of some of the problems and solutions related to the diagnosis and classification of childhood depression. As previously

mentioned, depression is a word used in many different contexts, and is often used in everyday speech to describe transient mood states experienced by most individuals. However, in this study we are only concerned with the depressive syndrome. Syndromes as described by Graham (1981), are "disorder states . . . in which it is possible to identify clusters of symptoms and signs, which group together more commonly than they would by chance" (p. 288). According to Graham there are certain conditions necessary in order to constitute a syndrome: (1) the syndrome must have a characteristic course requiring specific methods of intervention; (2) the syndrome responds to specific treatments; (3) individuals will have similar clusters of symptoms common to a specific syndrome, and these symptoms will differentiate them as a group from other disorders. Following Graham's reasoning, the childhood depressive syndrome must therefore have certain common features, have a characteristic course and respond to specific treatment, in order to distinguish it from other disorders. Unfortunately, in the research childhood depression there has been some difficulty in defining a central syndrome. Much of the research is related to theoretical orientation rather than empirical investigation. Often in order to make general inferences, research has relied on retrospective clinical analysis of case notes, or clinical impressions of depressed samples. Large scale epidemiological studies have not been common, and even the clinical groups studies have tended to be

hetereogeneous. In the discussion to follow, the major studies in the area of childhood depression will be reviewed, and a brief account of the major assessment and diagnostic techniques used will be presented.

As noted previously, there has been considerable resistance to the concept of childhood depression. More accentuation has been given to problem behaviors in childhood, sad affect being seen as secondary to the problem behaviors. Traditionally, these aberrant behaviors were often thought of as being the result of poor parent-child interactions, and little attention was given to the child's contribution to the situation. Psychoanalysts have suggested that the child could not deal with prolonged emotional discomfort, but these feelings would be denied and projected, or converted into action so that even if depression could occur in children it would not appear as in adults. Toolan (1962) in accordance with this view, stated that much of the behavioral and conduct disorders of childhood were in fact manifestations of depression which were being "acted out", and appeared as conduct, academic, eating and sleeping problems. Toolan (1962, 1978) considered these behaviors to be "depressive equivalents", and proposed that the behaviors observed were dependent on the age and emotional development of the child. Glaser (1967) supported Toolan's viewpoint, and coined the term "masked depression" which related to the situation where the problem behaviors were in fact a cover-up for underlying depression. According to Glaser (1967) a number of essential

criteria were necessary for childhood depression, and included low self-esteem and feelings of rejection and helplessness. However, these feelings were often overshadowed by disobedience, school phobia, delinquent behavior, truancy and physical problems. Poor school performance especially being considered a serious form of masked depression. Other researchers have supported this position, suggesting that if all efforts were concentrated on the educational issues then there was a danger of worsening the depression, rather than ameliorating it (Glaser, 1967; Hollon, 1970; Malmquist, 1970; Cytryn and McKnew 1974).

Frommer (1967) considered all forms of childhood behavior and conduct problems to be signs of depression. She justified this position, perhaps wrongly, by the positive responses of many of her patients to anti-depressant medication. Cytryn and McKnew (1972) proposed a hierarchical classification of childhood depression similar to that put forward by Toolan. This viewpoint considered the child's developmental level, and the use of defense mechanisms. These researchers observed that the depressive process could be represented at these different levels in childhood. First, the fantasy level, where depressive themes could be elicited from drawings and projective techniques such as the Children's Apperception Test or the Rorschach test of personality. These depressive themes usually included stories involving abandonment, death or injury. The second level was via verbal expression of

depressed feelings, and the third level was related to mood and observed behaviors such as sadness, tearfulness, appetite, sleep disturbances, school failure and delinquency.

Cytryn and McKnew (1972) discovered that all depressed children expressed depressive material at the fantasy level, but verbal expression of depressive feelings was less frequent, while observable mood and behavior changes were the least common in this age group. It was postulated from these observations, that the expression of depression in children would depend on the level of defenses used as most children attempted to avoid the conscious experience of depression. For example, children with masked depression would only communicate their depression at a fantasy level, while employing avoidance and denial as defenses. At the second level, verbal expression occured, but there was no depressive affect. The more chronic depressions entered the third level where depressive affect was more obvious as the defenses had failed (Noshspitz, 1979). Cytryn and McKnew suggested that the child's "maturation and growth promote a sense of optimism, exuberance, and hope, all of which helped to ward off any sense of despair or hopelessness" (Noshspitz, 1979, p. 331). As a result of this, the child constantly fights obvious demonstrations of the depressed feelings. The younger the child, the greater the defenses used, and the more likely he is not to show the kind of depression seen in adults.

More recently, the concept of masked depression and depressive equivalents have been brought into question. Many authors have revised their thinking, and suggested that if a child meets the criteria for depression, the behavior problems should be considered as an integral part of the depressive syndrome, and not as a mask (Kashani, 1981; Carlson and Cantwell, 1980). Continuing along these lines, it has been suggested that the "behavior problems" are usually the reason for a child to seek help, but in fact may just direct attention away from the real depression (Carlson and Cantwell, 1980).

Researchers are now trying to find depressive signs in children which are equivalent to adult depression. The assumption is that "if the construct of childhood depression is clinically useful and has construct validity, then it should have similarities with historical and clinical associates already demonstrated with adult depressive states" (Birelson, 1981, p. 75).

One of the major problems associated with trying to operationally define childhood depression has been the lack of attention to classification. Adult affective illness has been divided up into categories based on etiology, family background and chronicity amongst other factors. As noted, this has not yet been carried out for childhood depression. A few cases of manic-depressive illness have been identified in children (Coll and Bland, 1979; Carlson and Cantwell, 1978) but reports of psychotic depression in children have

been rare, most of the childhood depression appearing to fall into the reactive, neurotic or atypical forms.

Looking for classical depressive symptoms in children, Poznanski and Zrull (1970) over a period of four years, examined the case records of children aged three to twelve years, at a Department of Child Psychiatry. They identified depression in children similar to adults depression with symptoms of sadness, withdrawal, sleep disturbance, feelings of rejection and poor self-image. The authors noted that the depression was associated with a positive family history of depression, parental rejection in many cases and was often chronic with frequent relapses.

Connell (1972) was able to differentiate two groups of depression in children. An acute group related to an external precipitant which had a sudden onset and had no obvious family history of depression, and a chronic group with a strong family history of depression. It should be noted that these studies examined case notes of psychiatric clinic attendees, and represented a group of children who might be expected to have many emotional difficulties, and therefore it is not clear whether the mood state was primary or secondary to other problems.

A strong criticism of the attempts to link childhood depression and adult depression has come from Lefkowitz (1980). He considered many manifestations of adult depression such as tearfulness, sadness, irritability and somatic disturbances to be developmentally normal in

children at particular ages, so that the presence of these behaviors could not be indicative of pathology. For example, Lefkowitz (1980) believed that the frequency of crying and sadness in young children was quite common, and was no more than a "transitory developmental phenomenon". He also suggested that many of these characteristics which are considered signs of depression, are nothing more than undesirable behaviors that have been reinforced unwittingly by the parents, and would disappear with time. Illich stated that there was more harm done by labelling the child as depressed, and that "next to the damage done by not offering somebody help when they need it . . . is of offering somebody help when they don't need it" (Lefkowitz, 1976, p. 7). However, despite this criticism, there appears to be a consensus that there is a spectrum of depressive states in children similar to adult depression, but whose different manifestations are accounted for by the substrate of normal childhood development on which the syndrome is superimposed.

In order to remedy some of the deficiencies in previous retrospective studies, recent research has attempted more scientific approaches using better designed prospective studies. Also, these studies accepted the premise that childhood depression was similar to adult depression, but with some special overt behaviors considered unique to children. In these studies attempts were made to operationalize a set of diagnostic criteria for childhood depression. With this in mind Weinberg et al. (1973)

examined 73 school aged children aged six to twelve years who were referred to an educational diagnostic center. Using adult criteria for depression, the researchers diagnosed a depressive syndrome in 63% of the children. These criteria included feelings of sadness and a self-depreciating attitude, somatic complaints, diminished socialization, low energy level, withdrawal, change in school performance and attitude towards school, and an unusual change in appetite, weight or sleep patterns. For depression to be confirmed, the children had to have a depressed mood as well as two or more of the above problems. This study used an interview technique, and confirmed some of the results of the less rigorous retrospective studies already mentioned.

A more sophisticated study was carried out by Carlson and Cantwell (1980a) who examined 102 children. The children were assessed by a routine symptom checklist, the Children's Depression Inventory and psychiatric interview using the DSM-111 criteria for depression. This study revealed that 16% of outpatients, and 36% of hospital inpatients were depressed. The researchers cautioned that while depression was a common complaint in children with emotional problems, this did not imply the depressive syndrome. This observation may account for the disparity of incidence figures in the studies of childhood depression.

In summary, there is general agreement that the syndrome of childhood depression does exist and can be diagnosed using

adult criteria (Puig-Antich, 1976; Kovacs and Beck, 1977; Pearce, 1978; Kovacs, 1980; Cantwell and Carlson, 1980; Cytryn and McKnew, 1980; Poznanski, et al., 1980, 1982). This thinking is reflected in the DSM-111 (Appendix A) which defines childhood depression using the same symptom constellation as adult depression, but adding a number of modifying variables depending on the child's age. However, it must be kept in mind that because of the complexities of child development, socio-cultural norms, biological and psychological maturation, the diagnosis of children's depression remains problematic.

Psychological Tests for Childhood Depression

Up to this point, it does appear that many of the behaviors that result in children being brought to professional help, both in the educational system and the community, may in fact be evidence of the depressive syndrome. However, a problem occurs in how to identify depressed children from those with other emotional or learning difficulties, since often there is no evidence of overt depression. Obviously, one cannot assume that all childhood behavioral, academic and conduct problems are evidence of depression, but it is important to differentiate those children that do have a depressive syndrome. In an attempt to more accurately identify these children, a number of psychological assessment instruments have been devised recently. These instruments will be discussed in

more detail in this section, in order to demonstrate the difficulties in constructing instruments for the objective diagnosis of childhood depression, and their usefulness as an aid to diagnosis will be discussed.

In general, psychological tests can be divided into two broad categories. First, self-report measures and inventories which are usually objective, structured and standardized. Second, projective techniques which are more subjective and rely heavily on clinical judgment and interpretations (Korchin, 1976). The projective techniques have been criticized because of their subjectivity. Usually, a client is presented with ambiguous material, and his responses ostensibly serve as indirect indications of the problem. The unstructured test allows the individual freedom to express himself verbally, and this "fantasy" material is used to infer underlying difficulties. These tests do not directly measure the problem, and interpretation often depends on the examiner's theoretical perspective. Some of these instruments such as the Thematic Apperception Test, the Children's Apperception Test and the Rorschach Test have been used successfully to diagnose depression in children (Korchin, 1976).

In recent years attention has been devoted to the development of objective test measures that may be used to diagnose depression. Of special use in the diagnosis of adult depression have been the Hamilton Rating Scale (1960), the Zung Rating Scale (1965), and the Beck Depression

Inventory (1961). The Beck Depression Inventory has been widely used and researched, and its validity and reliability is well documented (Beck, 1961, 1967, 1974). Unfortunately, the situation with children is not so clear, and many self-report measures are modifications of adult rating scales, or have been developed from data gleaned from clinical cases and material from projective testing. In recent years however, research has been carried out more extensively on objective measures to diagnose childhood depression with attempts at statistical validation.

Five of these children's rating scales of depression will be considered briefly here in order to make some comparisons between them, examine their psychometric properties, and to ascertain their limitations and usefulness for the educational setting. The instruments to be discussed are as follows: (1) The Belleview Index of Depression BID (Petti, 1978); (2) The Peer Nomination Inventory for Depression PNID (Lefkowitz and Tesiny, 1980); (3) The Children's Depression Scale CDS (Lang and Tisher, 1978); (4) The Children's Depression Rating Scale CDRS (Poznanski et al., 1979); and (5) The Children's Depression Inventory CDI (Kovacs, 1978). This last instrument, the CDI, will only be mentioned briefly in this section. A detailed account will be given in Chapter III since this is the instrument utilized in the present study.

Kovacs (1981) listed a number of essential criteria that should be present in an assessment measure if it is to

provide clinically useful information for diagnosing childhood depression. These criteria include: internal consistency, test-retest reliability, sensitivity to treatment effects, and a good correlation with independent diagnostic evaluation. The test should also correlate well with other measures associated with depression, such as low self-esteem, and should be able to discriminate clinic from non-clinic groups. In considering the five tests to be presented, these points should be taken into consideration in order to ascertain their strengths and weaknesses.

The Belleview Index of Depression B.I.D. (Petti, 1978)

This is a clinician's rating scale using interview format. This test is based on Weinberg's operational diagnostic criteria of childhood depression (Weinberg, et al., 1973). It consists of 40 items, scaled 0 -3 in order of severity, and encompasses the following symptoms: dysphoria, sleep, appetite and weight disturbances, school problems and other conduct or behavioral attributes. Also, the child and other informants are interviewed to complete the assessment.

Initially, it was tested on 73 psychiatric inpatients aged six to twelve years, and showed 83% agreement with clinicians diagnosis of depression. However, it has been criticized on the grounds that it is not clear on how the information sources are weighted. Also in this study all the observations were made by the same clinician, therefore

raising further doubts as to its usefulness and validity (Kashani, 1981; Kovacs, 1981). However, Petti (1978) did suggest that test results alone should not be considered sufficient to diagnose depression, and the symptoms must represent a change from the child's previous condition, and be of concern to both parents and teachers.

Peer Nomination Inventory for Depression, PNID (Lefkowitz and Tesiny, 1980)

This is a sociometric scale which involves reporting of how children feel about others in the classroom. There are 23 items, taken from the literature on childhood depression, which describe observable aspects of depression in others. For example, "who is the most sad" and "who does not have much fun". Other items include happiness and popularity aspects. Scoring is determined by how many nominations on each item are awarded by classmates.

The original test was administered to 452 boys and 492 girls in grades four and five, from ten New York schools. A broad socioeconomic background was used. The psychometric properties appeared good, with a test-retest reliability of $r = .79$ ($n = 177$), and internal consistency coefficient alpha $= .85$. All depression items except one had a significant contribution to the total score ranging from $r = .34$ to $r = .71$. Factor analysis of this inventory revealed four factors; loneliness, inadequacy, dejection and a general depression factor. The PNID was also found to have a

significant correlation with teachers rating of pupils depression ($r = .41$, $p<.001$). This test was reported to predict school performance, self-concept and teacher's rating of social status (Lefkowitz and Tesiny, 1980; Kovacs, 1981).

Children's Depression Scale. CDS (Lang and Tisher, 1978)

This is a self-report scale, and was developed on the basis that childhood depression is a syndrome. The test items were established from the literature, projective test records and psychotherapy notes of depressed children. This scale contains the possibility of both positive and negative responses. There are 66 items, 48 relating to depressive symptoms, and 18 to non-depressive positive feelings. The items are printed on cards which the child places into an appropriate labelled box (very wrong - very right). A modified version is available for parents or teachers who can similarly account for the child's behavior.

The CDS was originally administered to three groups of children aged nine to sixteen years. They consisted of an experimental group of 40 depressed children who were mostly school refusers, a control group of 37 school attenders, and 19 children attending a clinic for other problems. One hundred and thirty parents were also tested.

This test had high internal consistency $r = .96$, and factor analysis revealed one primary dimension. It was

reported that those children rated "unhappy" by clinicians had a high score on the test, and that the depressed group scored higher than the other groups. However, this instrument has been criticized on methodological grounds, and Kovacs (1981) has commented that "it is doubtful that rating a child 'unhappy' automatically warrants the label of depression" (p. 5).

Children's Depression Rating Scale. CDRS (Poznanski et al., 1979)

This is a 12 item interview format clinicians rating scale, relying on interviews from the child, medical personnel and parents, with items derived from the Hamilton Rating Scale for Adults. The scale is a multiple choice test for children aged six to twelve years. The CDRS was tested with 30 children who were medical inpatients with a diversity of diagnoses. Each child was seen by a psychiatrist and an observer who independently rated them on the CDRS. Children were also diagnosed by clinical interview, and information gained from staff and parents.

This rating scale showed item - total correlation of r = .38 to r = .88. Clinicians' global rating of depression showed a positive correlation of r = .36 with items of low self-esteem on the CDRS, and a correlation of r = .91 with items of depressed mood. Interrater reliability was high, with a correlation of r = .96.

The validation procedures on this scale appear unclear, and the data is difficult to interpret. Since the same investigator was active in all three parts of the study, and was responsible for the clinical diagnoses, the CDRS rating and the global rating of depression, one can question some of the test assumptions. However, the test does attempt to quantify data gained at interview, and may be useful in diagnosing childhood depression (Kovacs, 1981).

Children's Depression Inventory, CDI (Kovacs, 1978).

This is a self-report measure with 27 items that describe features of depression such as sadness, lack of energy and enthusiasm, suicidal ideation, appetite, weight and sleep problems, and cognitive and psychomotor disturbances. Each item allows the child three choices, scoring 0 - 2 in the direction of severity of depression. The test was designed for children aged seven to thirteen years.

This test is a modification of the Beck Depression Inventory for Adults, and makes the assumption that childhood depression is similar to adult depression in terms of symptomology. This is a simply administered paper and pencil test that can be given to individuals or groups. There have been a number of studies attesting to its usefulness, and psychometric properties (Kovacs, 1978, 1980; Carlson and Cantwell, 1980; Cytryn and McKnew, 1980; Kazdin, 1981). The

CDI will be more fully discussed in Chapter III, however, it does appear to be one of the more widely studied tests presently in the area of childhood depression.

Despite the number of tests available, many are still experimental. They rely on self-report or interview format which may still be suspect as doubts have been expressed as to whether children can accurately report on their own depressive feelings. Children are often prone to shy away from relating sad feelings, or may not want to respond to test items which they consider unpopular. Also, the child's comprehension of the question will depend on his level of cognitive and language development, which may effect his ability to make accurate judgments about feelings and behaviors. Likewise, the problem arises as to what these tests are actually measuring. A number of instruments are based on information gained from many sources, and are often somewhat arbitrary in defining the syndrome of childhood depression. Other tests represent modifications of adult instruments making the assumption that adults and children have the same symptoms, and therefore suffer from the same depressive syndrome. As can be seen, much work needs to be carried out in designing better studies to validate and objectify rating scales to diagnose depression in children.

Summary

Attempts to provide psychological tests for the diagnosis of childhood depression have encountered similar

difficulties to those mentioned in the discussion of the classification of childhood depression. Projective techniques have been criticized on the grounds that they are subjective and may be biased, and objective measures have been criticized because of problems with methodology or the reliance on adult depressive indices from which children's tests have been modified. Despite these problems some initial progress has been made, and self-report questionnaires are available that have been found useful in the diagnosis of childhood depression. A particularly promising self-report inventory is the Children's Depression Inventory (Kovacs, 1978) which has demonstrated good validity and reliability on initial examination, and is easily administered to children. This test is the subject of the present study.

Hypotheses

The following specific hypotheses have been formulated to examine the problems addressed in this study:

(1) The Children's Depression Inventory can differentiate between depressed children as diagnosed by a child psychiatrist, and a control/comparison group of normal children. The Children's Depression Inventory can also differentiate between depressed children, and children diagnosed by a child psychiatrist as

suffering from emotional disorders other than depression.

(2) The Children's Depression Inventory can ascertain the severity of depression, and can distinguish between children who are not depressed, those with mild depression, and those with moderate depression as diagnosed by a child psychiatrist.

(3) There will be a positive correlation between the scores on the Children's Depression Inventory and the child psychiatrist's rating of childhood depression.

(4) There will be a positive correlation between the scores on the Children's Depression Inventory and scores on the eight behavioral factors on the Connor's Parents' Symptom Questionnaire.

(5) There will be a positive correlation between the child psychiatrist's rating of childhood depression and the scores on the Connor's Parent's Symptom Questionnaire.

(6) If the symptoms of depression incorporated in the Children's Depression Inventory are valid indicators of childhood depression, then in a sample of normal school children the frequencies of responses to individual test items should not exceed their expected frequencies in the normal child population.

CHAPTER III

METHODOLOGY

This chapter outlines with the research design of the study. The subjects are described together with the test instruments and the study procedures, in addition the analyses procedures are explained.

Description of Subjects

Clinic Sample

This sample was selected from children referred for diagnostic assessment and treatment to a child psychiatrist in the Division of Child Psychiatry, Department of Psychiatry, University of Alberta. The children were referred from a variety of sources including physicians, the Bureau of Child Studies, Social Services, and private counselling agencies. Reasons for referral included school failure, conduct and behavior disorders, overactivity, attention problems and school refusal.

For inclusion in this study the children had to be between the ages of six to thirteen years, and in the psychiatrist's opinion were not psychotic, brain damaged or mentally retarded, but could be suffering from a broad range of other psychiatric disorders.

Over a period of six months, 60 children who met the study requirements were made available for testing. These

children consisted of 46 males and 14 females, with a mean age of 9.8 years, representing grades 1 through 7. The case notes indicated that the sample covered the full range of socioeconomic groups. The parents or guardians of the 60 children were also included in the study, and were asked to complete a parent questionnaire.

Non-Clinic Children

Two hundred and fifteen school aged children aged 7 to 12 years (mean age 9.6) were obtained from four elementary schools in the Edmonton city area. The children were randomly sampled from all four schools, and consisted of pupils from grades 2 through grade 6 (mean grade 4.1). There were 106 males and 109 females. The four schools were assigned by the Edmonton Public School Board to reflect a broad socioeconomic range. This group of 215 children was required for the statistical analysis of the CDI items on a normal population. The distribution of this sample according to age, sex and grade is included in Tables 6 and 7. Using a random number table, a sample of 25 of these children were selected as a comparison/control group with the clinic sample.

Description of Test Instruments

The Children's Depression Inventory CDI (Kovacs, 1978)

This test is a self-report scale which consists of 27 multiple choice items purported to reflect the symptoms of

childhood depression. Each item can be scored from 0-2 in the direction of increasing psychopathology. Total possible scores range from 0 - 54. Kovacs (1978, 1981) has suggested that a score of nine is average for the normal school population, and for the diagnosis of depression a score of 19 is required. The test is a pencil and paper instrument suitable for children aged seven to thirteen years. It may be adminsitered individually or in small groups. A copy of the questionnaire is presented to the child who has to mark his responses as appropriate. The examiner reads each question aloud to the child, to make sure there is proper understanding.

The CDI was developed by Kovacs (1978) as a modification of Beck's Adult Depression Inventory BDI (1961). Kovacs stated that the "similarities in symptoms (of depression) outweighed the differences" when considering adult and childhood depression (p. 5). This justified using an adult depression scale as a starting point for measuring depression in children. The BDI was selected because of its proven validity, reliability and wide use in adult depression (Beck, 1961; 1967; 1974; French and Berlin, 1979; Cytryn, McKnew and Bunney, 1980). Some modifications and additions were made to the CDI to cover some unique features of childhood depression, and the vocabulary was adjusted to suit this age group. This test is intended to tap the cognitive, affective and somatic aspects of depression. A copy of the CDI is presented in Appendix B.

Kovacs (1981) reported on two studies demonstrating the psychometric properties of the CDI. When the CDI was compared with a psychiatrist's clinical rating of depression a significant positive correlation was found ($r = .55$ $p<.001$, $n = 39$). When a group of children attending a guidance clinic ($n = 39$) were compared with a non-clinic group of children ($n = 20$), the CDI showed higher mean and modal scores for the guidance clinic group demonstrating that the CDI has discriminative validity (Kovacs, 1981). Freedman and Butler administered the CDI and the Piers - Harris Self-Esteem Measure to a group of Canadian school children, and found a significant positive correlation ($r = .66$, $p<.05$, $n = 875$) (Kovacs, 1981). High scores on the Piers - Harris indicated low self-esteem and correlated with high scores on the CDI. Overall, these results demonstrated that the CDI has clinical validity.

Freedman and Butler also carried out reliability studies showing that the CDI had good test - retest reliability over a one month interval ($r = .72$, $n = 28$) (Kovacs, 1981). They demonstrated statistically significant item - total score correlations ($r = .31$ to $r = 54$) and good internal consistency (coefficient alpha .86) (Kovacs, 1981).

The Conner's Parents' Symptom Questionnaire CPSQ

The CPSQ (Conners, 1970) was utilized in this study since its format covered a broad range of childhood problem behaviors. These behaviors include eating and sleeping

problems, fears and worries, somatic complaints, learning problems and anti-social behavior. According to the literature such behaviors may "mask" depression in children (Glaser, 1967; Cytryn and McKnew, 1972, 1978) or may be "depressive equivalents" (Toolan, 1962). If this is correct, then children exhibiting these problem behaviors might be expected to have high scores on the CDI suggesting that these behaviors do indeed indicate depression.

The CPSQ is a parent rating scale consisting of 93 observable child problem behaviors rated from 0 to 3 (0 = not at all; 1 = just a little; 2 = pretty much; 3 = very much). Factor analysis has identified eight factors: (1) conduct problems; (2) anxiety; (3) impulsive/hyperactive; (4) learning problems; (5) psychosomatic; (6) perfectionism; (7) anti-social; and (8) muscular tension (Conners, 1970). The CPSQ gives a total behavioral score. However, this was not considered relevant here, as the purpose of the study was to determine which factors in this test if any might have a positive correlation with childhood depression, and was not to determine the relationship of the test scores as a whole to childhood depression. A copy of the test is presented in Appendix C.

The CPSQ was developed in 1970 to differentiate neurotic and hyperactive children from normal children based on parents' observations. Initially 316 clinic children and 365 normal children ages 6 - 14 years were assessed (Conners, 1970). The CPSQ has been widely used in

clinical studies to diagnose hyperactivity, to measure symptom severity, and to measure treatment response (Conners, 1970, 1978). Discriminant function analysis revealed that factor scores classified 83% of controls, and 70% of clinic patients correctly in the original study. This test is considered appropriate for outpatient samples (Conners, 1970). In 1978 Conners reconfirmed the psychometric properties of the CPSQ by administering a shorter version to 570 normal children ages three to seventeen. He found that the factor analyses compared favorably to his earlier studies.

Clinicians' Rating of Depression

A standard psychiatric interview was conducted by a child psychiatrist requiring interviews with each child and available parent. Psychological reports and teachers' assessments were also included. The interview sought information on the present complaints, the child's developmental history, family history, and inquired into any underlying physical illnesses. A mental status examination was also carried out. A full description of the clinician's procedure is provided in Appendix D.

A four point rating form was completed by the clinician after his interview with each child (Appendix E). This form ranked the diagnosis of depression under four headings as follows: (1) no depression; (2) mild depression;

(3) moderate depression and (4) severe depression. The psychiatrist judged the severity of the depression based on the duration and number of symptoms, the degree of interference with everyday functioning including school problems, peer relationships and family adjustment, the presence of suicidal ideation and the depth of depression as measured by the mental status examination.

Study Procedure

Clinic Sample

Over a six month period testing was carried out two days per week. During this period a total of 60 children representing a broad range of psychiatric problems were treated. With parental consent (Appendix F) each child in the clinic sample was assessed as follows. First, each child was interviewed by the psychiatrist at which time the psychiatrist completed the depression rating form provided (Appendix E). Second, the Children's Depression Inventory was individually administered by the researcher in a separate testing room. Third, during these proceedings the accompanying parent was requested to complete the Conners' Parent's Symptom Questionnaire. Parents were encouraged to complete this test in the office, however due to time constraints it was necessary for some parents to complete the test at home. This was not fully satisfactory, and only 49 CPSQ protocols were returned for analysis.

Non-Clinic Sample

With parental consent (Appendix G) the Children's Depression Inventory was administered to 215 normal school children. The test was given as a group test. In grades 2 to 4, group size averaged from four to six children with a maximum of 12. For children in grades 5 and 6, their greater language ability made it possible to conduct the test with larger groups. These groups ranged from eight to 20 children.

From this group of 215 children, 25 children were randomly selected to be used as a control/comparison group with the clinic sample. This control group consisted of 10 males and 15 females aged 7 to 12 years ($x = 9.3$) attending grades 2 through 6.

Interrater Agreement Study

One of the problems associated with the diagnosis of childhood depression has been poor agreement among clinicians as to what constitutes the syndrome. As it was intended to use the clinician's diagnosis of depression as a criterion for validating the CDI, it was necessary to determine its reliability. Ideally it would have been preferable for two independent clinicians to examine each of the children in this study and independently diagnose them. However, since this was logistically unfeasible, 25 hospital case records were randomly selected from the study psychiatrist's files. Diagnoses were deleted, and the

records were examined and rediagnosed by an independent psychiatrist. A comparison was made between the two sets of diagnoses and inter-rater agreement calculated.

Of the 25 case records, 11 were diagnosed by the independent rater as having a primary depressive syndrome. There was inter-rater agreement for eight of these cases (72.7%). Of the other three cases, there was a complete disagreement on one diagnosis, but two had a secondary diagnosis of depression with the primary diagnosis by the study psychiatrist being conduct disorder and attention deficit disorder respectively. If the secondary depressions are included in the depressed group, then the inter-rater agreement rises to 90.9%. This finding suggested that a syndrome of childhood depression could be identified clinically with a satisfactory degree of reliability.

Treatment of the Data

The following statistical methods were used to analyze the collected data: (1) a one-way analysis of variance was conducted to evaluate the first and second hypotheses. A level of significance of $p < .05$ was considered necessary to accept these hypotheses (Spatz and Johnson, 1981); (2) computation of Pearson Product Moment Correlations were conducted to evaluate hypotheses three, four and five. Since the directions of the correlations were predicted to be positive, one tailed tests were employed with significance levels set at $p < .05$ (Spatz and Johnson, 1981);

(3) descriptive statistics were utilized to test the sixth hypothesis, and involved the use of frequency counts and cross-tabulations.

CHAPTER IV

RESULTS

This chapter presents the results of the study. The clinician's findings will be presented first, followed by an evaluation of each hypotheses.

The study clinician examined 60 clinic children (46 males and 14 females). In this sample 35 children (58%) were found to be depressed (27 males and eight females) with a mean age of 9.8 years. The remaining 25 children (42%) were diagnosed as not being depressed, but suffering from other emotional disorders (19 males and six females). Based on the clinician's criterion for diagnosing childhood depression (Appendix B), the depressed group was divided into two subgroups, a mild and moderate group. In the mild group, there were 12 children (20%), ten males and two females with a mean age of 10.00 years. The moderate group consisted of 23 children (38%), made up of 17 males and six females with a mean age of 9.7 years.

Hypothesis 1

The first hypothesis stated that the Children's Depression Inventory CDI can differentiate between depressed children as diagnosed by a child psychiatrist, and a comparison/control group of normal children. The CDI can also differentiate between depressed children, and children

diagnosed by a child psychiatrist as suffering from emotional disorders other than depression. A one-way anlaysis of variance was conducted and resulted in a significant difference between the groups ($F = 7.67$; $df = 2/82$; $p < .01$). A summary table of the results is presented in Table 1. The Tukey test for comparison of means revealed significant differences ($p < .05$) between: (a) the clinic depressed group and the clinic non-depressed group, (b) the clinic depressed group and the comparison/control group of normal children. There was no significant difference between the means of the clinic non-depressed group and the comparison group. The mean CDI scores and standard deviations for the three groups will be shown in Table 2.

It can be concluded from the data that hypothesis 1 is supported, thus indicating that the CDI may be a useful screening test for childhood depression.

Hypothesis 2

Hypothesis 2 stated that the Children's Depression Inventory can ascertain the severity of depression, and can distinguish between children who are not depressed, those with mild depression and those with moderate depression as diagnosed by a child psychiatrist. To evaluate this hypothesis, the sample was divided into four groups. Group 1, clinic children not depressed but with other emotional disturbances ($n = 25$); group 2, clinic children mildly depressed ($n = 12$); group 3, clinic children moderately

TABLE 1

ONE-WAY ANALYSIS OF VARIANCE OF SCORES ON THE CHILDREN'S DEPRESSION INVENTORY FOR NON-DEPRESSED CLINIC CHILDREN, DEPRESSED CLINIC CHILDREN AND A COMPARISON/CONTROL GROUP OF NORMAL CHILDREN

Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	P
Depression	Groups	559.585	2	279.792	7.67	0.001
	Error	2991.114	82	36.477		

TABLE 2

MEANS AND STANDARD DEVIATIONS OF DEPRESSION SCORES ON THE CHILDREN'S DEPRESSION INVENTORY FOR NON-DEPRESSED CLINIC CHILDREN (1), DEPRESSED CLINIC CHILDREN (2) AND A COMPARISON/CONTROL GROUP OF CHILDREN (3)

	Group		
	1	2	3
x	7.56	13.00	8.04
SD	3.56	7.17	6.25

depressed (n = 23); and group 4, a control/comparison group of normal children (n = 25). Table 3 shows the means and standard deviations of the CDI scores for these four groups.

A one-way analysis of variance was computed for the data and disclosed significant differences between the groups ($F = 8.21$; $df = 3/81$; $p<.01$). A summary of this data is presented in Table 4. The Tukey test for comparison of means showed a significant difference at the .05 level between, (a) the non-depressed clinic group and the moderately depressed clinic group, (b) the normal control/ comparison group, and the moderately depressed clinic group, (c) the mildly depressed clinic group and the moderately depressed clinic group. There was no significant difference between the means of: (a) the non-depressed clinic children and the mildly depressed clinic children (b) non-depressed clinic children and the normal control/comparison group and (c) the control/comparison group and the mildly depressed clinic group. Figure 1 presents the frequences of the CDI test scores for each of these groups.

The results of these analyses signifies that hypothesis 2 is partially correct, in that the CDI can differentiate children who are not depressed from those with moderate depression. However, the CDI cannot differentiate between children who are mildly depressed and non-depressed children. This implies that the CDI does not have the sensitivity to identify those children with mild depression and may therefore leave out a number of children. Notwith-

TABLE 3

MEANS AND STANDARD DEVIATIONS OF DEPRESSION SCORES, MEANS AND STANDARD DEVIATIONS OF DEPRESSION SCORES ON THE CHILDREN'S DEPRESSION INVENTORY FOR NON-DEPRESSED CLINIC CHILDREN (1), MILDLY DEPRESSED CLINIC CHILDREN (2), MODERATELY DEPRESSED CLINIC CHILDREN (3) AND A COMPARISON/CONTROL GROUP OF NORMAL CHILDREN (4)

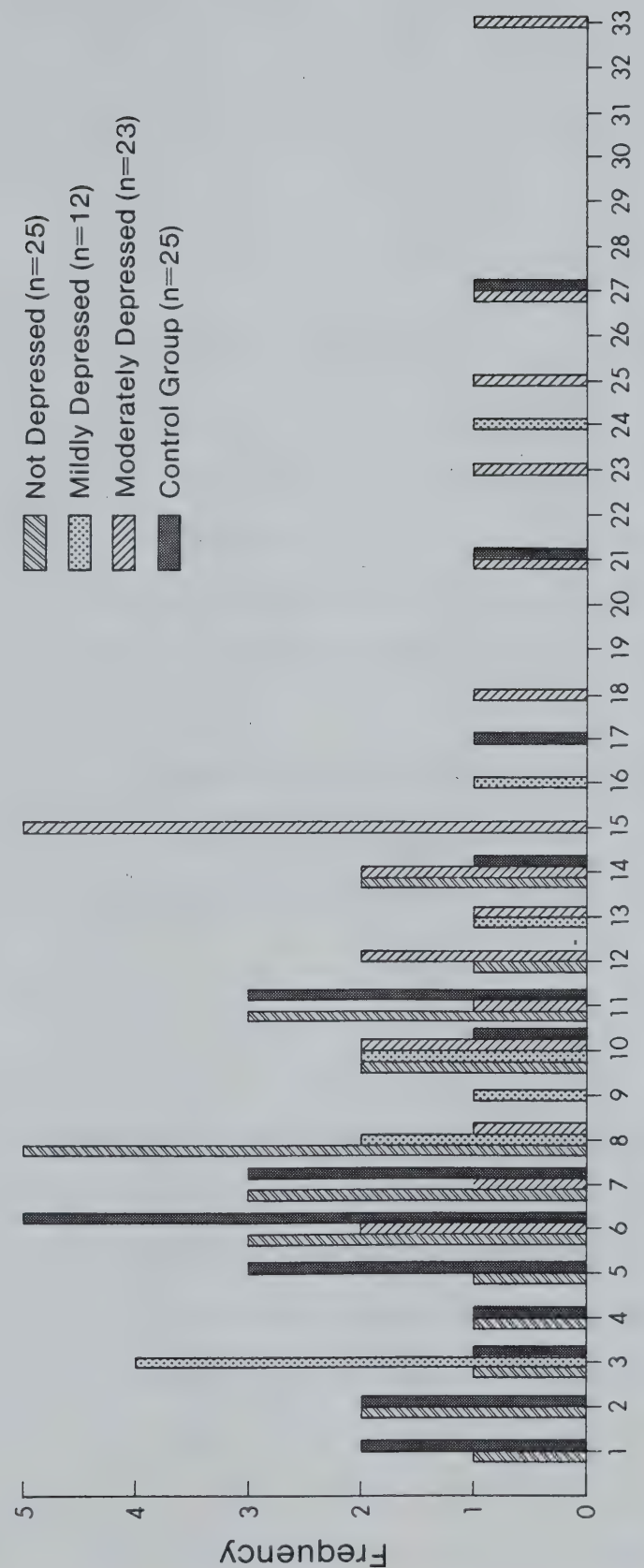
	Group			
	$\bar{x}$ 1	$\bar{x}$ 2	$\bar{x}$ 3	$\bar{x}$ 4
x	7.56	9.17	15.00	8.04
SD	3.56	6.30	6.88	6.25

TABLE 4

ONE-WAY ANALYSIS OF VARIANCE OF SCORES ON THE CHILDREN'S DEPRESSION INVENTORY FOR GROUPS 1, 2, 3, AND 4

VARIABLE	SOURCE OF VARIATION	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARES	F RATIO	P
Depression	Groups	827.919	3	275.973	8.21	.01
	Error	2722.781	81	33.615		

Figure 1. Histogram of Scores on the Children's Depression Inventory



standing, this the CDI does appear to be a satisfactory screening device for those children with a more pronounced depressive syndrome, and can be used as a severity measure in depressed groups.

Hypothesis 3

This hypothesis stated that there will be a positive correlation between the CDI scores and the child psychiatrist's rating of childhood depression. To test this supposition, Pearson Product Moment Coefficients were calculated, and indicated a significant positive correlation between the CDI and the clinician's rating ($r = .49$, $p<.01$).

The acceptance of hypothesis 3 provides supporting evidence that the depressive syndrome measured by the CDI and the depressive syndrome measured by the clinician are indeed similar.

Hypothesis 4

The fourth hypothesis stated that there would be a positive correlation between the scores on the CDI and the eight factors on the Conner's Parents' Symptom Questionnaire CPSQ. Pearson Product Moment Correlations indicated a significant positive relationship between the CDI scores and only two factors on the CPSQ; the factor for implusivity/ hyperactvity ($r = .27$, $p< .05$); and the anti-social factor ($r = .33$, $p< .01$). All other factors failed to reach the .05

probability level.

Hypothesis 5

The fifth hypothesis stated that there would be a positive correlation between the clinician's rating of childhood depression and the eight factors on the CPSQ. Pearson Product Moment Correlations indicted a significant positive correlation between the clinician's rating and the anti-social factor ($r = .36$, $p < .01$). All other factors failed to reach the .05 probability level. A summary of the results of hypotheses 3, 4 and 5 are presented in the correlation matrix in Table 5.

As can be seen from the data, hypotheses 4 and 5 are only partially supported. It appears that anti-social behavior as defined by Conners (1970) may be associated with depression as evidenced by its relationship with the CDI and the clinician's rating of childhood depression. Connors (1970) defined anti-social behavior narrowly as involving stealing from parents, schools or stores, and getting into trouble with the police. Behaviors such as aggressiveness, truancy, poor impulse control and peer difficulties which are often considered as anti-social behavior, make up a separate factor of conduct-disorder on the CPSQ, and in this study did not show a significant correlation with depression as measured by the CDI or by the clinician's rating. The literature has suggested that depression in children may be "masked" or over-shadowed, and manifested in various forms of

TABLE 5

PAIRWISE CORRELATION COEFFICIENTS BETWEEN THE CHILDREN'S DEPRESSION INVENTORY, THE CONNERS' PARENT'S SYMPTOM QUESTIONNAIRE, AND THE CLINICIAN'S RATING OF CHILDHOOD DEPRESSION

		CLINICIAN'S RATING	CDI SCORE
	Clinician's Rating		
	CDI Score	.485*	
CPSQ Factor 1	Conduct Problems	.212	-.122
Factor 2	Anxiety	.101	.079
Factor 3	Impulsive-Hyperactive	.097	.268*
Factor 4	Learning Problems	.076	-.013
Factor 5	Somatic Problems	.019	.084
Factor 6	Perfectionism	-.011	-.123
Factor 7	Anti-social	.360*	.326*
Factor 8	Muscular Tension	.163	.100

NOTE: n = 60 for clinician's rating and CDI total
n = 49 for Connor's Parent's Symptom Questionnaire
*p< .05

acting out behavior including those indicated by the anti-social factor, but also may include learning problems and hyperactivity (Brumbeck and Weinberg, 1977a; 1977b; Brumbeck and Staton, 1983; Burks, 1960; Glaser, 1967; Toolan, 1962). The results of the data tends to support this viewpoint. The study sample consisted of children referred to a child psychiatrist, the most common reasons for referral relating to "out of control" behavior, therefore the sample may be considered somewhat biased regarding the anti-social factor on the CPSQ.

The impulsive/hyperactive factor on the CPSQ includes such behaviors as inattentiveness, distractibility, reluctance to be left alone, early morning rising, trouble sitting still and excessive motor drive. This factor showed a significant positive correlation with depression scores on the CDI and suggests that depression may be associated with hyperactivity in children, and should be looked for in all such cases, although a more intensive investigation may be required to determine if the depression is the primary or secondary problem. It was expected from the literature review that more of the CPSQ factors would correlate significantly with depression, and it was noted that there was no significant correlation with learning problems. However, the factor for learning problems on the CPSQ is very general and includes such behaviors as dislike of school, disobeying school rules, not learning as perceived by the mother, and having no friends. This factor may be more

accurately considered as school related problems. A more accurate measure of failure to achieve academically might be obtained by utilizing academic achievement tests or teacher reports, and this could be the subject of a future study.

Hypothesis 6

The sixth hypothesis stated that if the symptoms of depression incorporated in the Children's Depression Inventory are valid indicators of childhood depression, then in a sample of normal school children the frequencies of responses to individual test items should not exceed their expected frequencies in the normal child population. To evaluate this hypothesis the CDI was administered to 215 normal school children. The mean CDI score was 9.41 with a standard deviation of 7.13 and a mode of 6.0, with scores ranging from 0 -38. A summary of this descriptive data is presented in Tables 6 and 7. Figure 2 presents the frequencies of the CDI scores for this group.

According to Lefkowitz (1980) if the prevalence of a behavior is to be considered statistically deviant from the normal population then it should be present only in 10% or less of the population. Kovacs (1981) reporting on field studies of the CDI in a normal school sample (n = 875) noted that if the 10% figure for deviance is adhered to then a cut-off score of 19 is obtained. Using this cut-off score, 11% of the present normal sample could be considered depressed.

TABLE 6

SCORES ON THE CHILDREN'S DEPRESSION INVENTORY (X), AGE AND SEX DISTRIBUTION OF A SAMPLE OF "NORMAL" SCHOOL CHILDREN (n = 215)

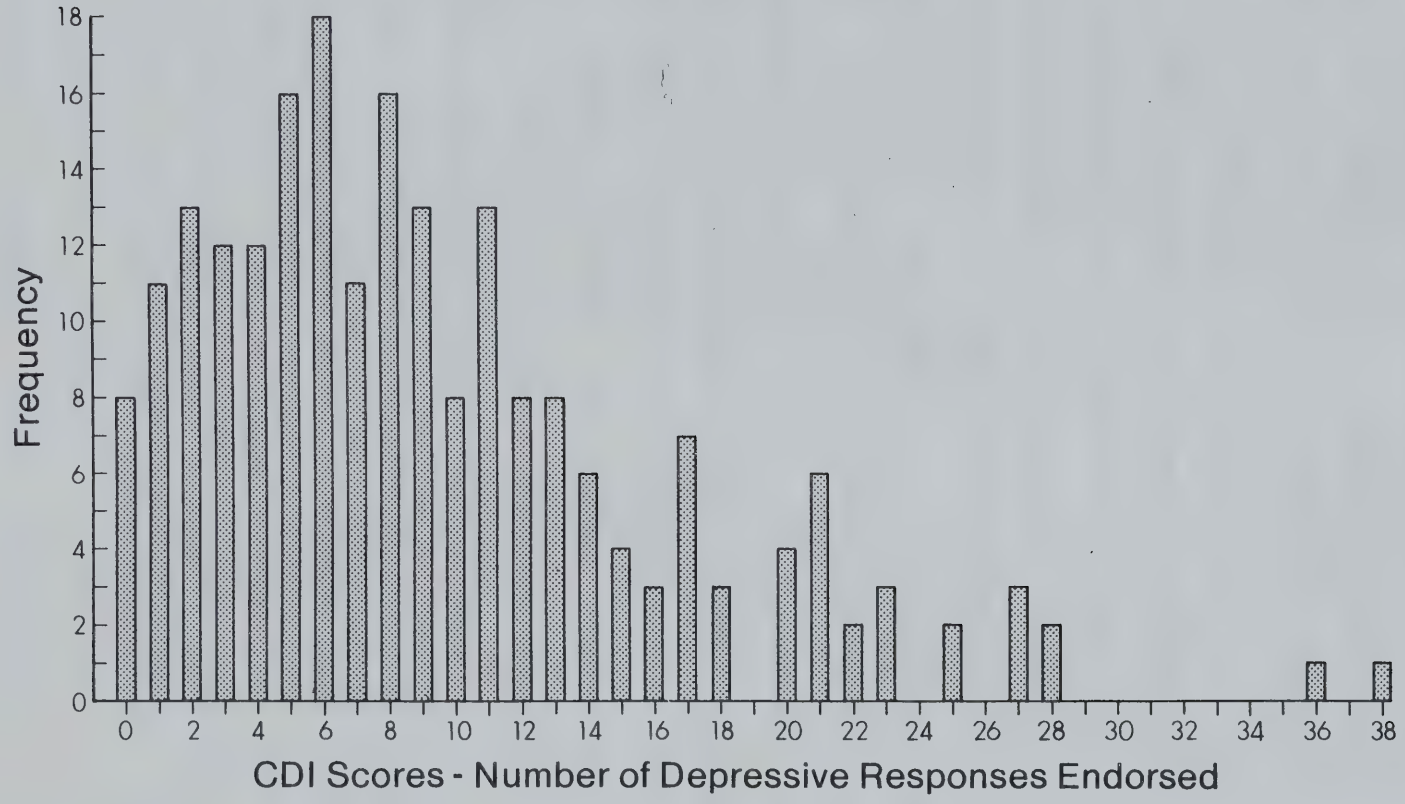
AGE	CDI SCORE	n	Males	Females
7 - 8	7.38	13	(4,	9)
8 - 9	8.71	52	(19,	33)
9 - 10	11.00	34	(21,	13)
10 - 11	8.90	41	(21,	20)
11 - 12	9.78	49	(26,	23)
12 - 13	9.92	26	(15,	11)

TABLE 7

SCORES ON THE CHILDREN'S DEPRESSION INVENTORY (X), GRADE AND SEX DISTRIBUTION OF A SAMPLE OF "NORMAL" SCHOOL CHILDREN (n = 215)

GRADE	$\bar{x}$ CDI SCORE	n	MALES	FEMALES
2	8.72	32	(13,	19)
3	9.98	54	(26,	28)
4	8.42	38	(21,	17)
5	8.39	36	(16,	20)
6	10.64	55	(30,	25)

Figure 2. Histogram of Scores on the Children's Depression Inventory of Normal School Children (n=215)



The CDI provides three levels of responses to the individual test items. A "0" score if the symptom is not present, a "1" score if the symptom is "occasionally" present, and a "2" score if the symptom is definitely present. The total CDI score is arrived at by adding the scores together. Depression may be inferred from all "1" responses, all "2" responses, or from a combination of responses. As already noted by Lefkowitz (1981) 10% of children may be expected to show symptoms of emotional disorder. However, Howells (1971) had suggested that if mild emotional disorders are included this figure reaches 21%. If it is assumed that scores of "2" on the CDI include moderate to severe symptomatology, and scores of "1" represent milder symptoms then it might be expected that in the study sample of normal children individual CDI items should not show a frequency of responses of more than 10% and 20% respectively. Keeping this in mind, a higher positive response than this to individual items on the CDI might indicate that the particular test item represented behavior that was common at that age group, and therefore would not be a deviant response (Lefkowitz, 1978, 1980). For the purpose of this study it was arbitrarily decided to use a frequency of 20% for the moderate to severe symptoms (score "2"), and 40% for the mild symptoms (score "1"), therefore allowing some latitude in the definition of deviancy. Cross-tabulations of the frequencies of each CDI item by grade level were calculated and the results are summarized in Tables 8 and 9.

TABLE 8

A SCORE OF "1" ON ITEMS ON THE CHILDREN'S DEPRESSION INVENTORY FOR A "NORMAL" SCHOOL SAMPLE (n = 215)

GRADE	CDI 2	CDI 4	CDI 6	CDI 9	CDI 11	CDI 13	CDI 14	CDI 16	CDI 19	CDI 20	CDI 22
2		47%		(38%)		41%			42%		44%
3	44%			46%		53%					46%
4				(37%)		61%					
5	53%					64%		42%			
6	60%	44%	42%	42%	40%	55%	51%			42%	

NOTE: These items were responded to by 40% or more of the sample. Numbers in parentheses were included because of the importance of suicidal ideation as a symptom of depression.

CDI ITEM 2 I'm not sure if things will work out for me.
CDI ITEM 4 I have fun in some things.
CDI ITEM 6 I worry that bad things will happen to me.
CDI ITEM 9 I think about killing myself but I would not do it.
CDI ITEM 11 Things bother me many times.
CDI ITEM 13 It is hard to make up my mind about things.
CDI ITEM 14 There are some bad things about my looks.
CDI ITEM 16 I have trouble sleeping many nights.
CDI ITEM 19 I worry about aches and pains many times.
CDI ITEM 20 I feel alone many times.
CDI ITEM 22 I have some friends but I wish I had more.

TABLE 9

ITEMS ON THE CHILDREN'S DEPRESSION INVENTORY WITH A SCORE OF "2" IN A "NORMAL" SCHOOL SAMPLE (n = 215)

GRADE	CDI 2	CDI 4	CDI 14	CDI 16
2				
3			22%	33%
4	45%	27%		
5				
6				

NOTE: These items were responded to by 20% or more of the sample.

CDI ITEM 2 Nothing will ever work out for me.
CDI ITEM 4 Nothing is fun at all.
CDI ITEM 14 I look ugly.
CDI ITEM 16 I have trouble sleeping every night.

In examining the results of these analyses, some interesting facts came to light. In all grades, item 13 referring to indecisiveness scores very high. One might deduce that in elementary school children decision making is often difficult, suggesting that this is a developmental task for this age range and is not indicative of deviance. Item 9 refers to self-harm or suicidal ideation. A large proportion of children in grades two, three, four and six responded positively to this item questioning its relevance to depression in this age group despite the strong emphasis on suicidal ideation as a symptom of depression (Carlson and Cantwell, 1982). This analysis identifies grade six in particular as a time during which pessimism, social withdrawal, thoughts of self-harm, indecisiveness, sadness and loneliness appear to be normal. Of course, grade six children are just entering puberty and about to enter junior high school, both of which may be significantly stressed events.

The hypothesis to be evaluated stated that normal children would not show a high frequency of positive responses on individual CDI test items. As can be seen from these analyses, when looking at individual items this hypothesis is not fully accepted. However, it must be remembered that the depressive syndrome is diagnosed by the presence of a constellation, or cluster of behaviors occurring together, and cannot be inferred from single test items (Graham, 1980; Costello, 1980). It may be however,

that the ten high frequency items on Tables 8 and 9 will require modifications, but when all the 27 items on the CDI are taken into consideration it does seem that satisfactory identification of depressed and non-depressed children is possible using this measure.

CHAPTER V

DISCUSSION AND CONCLUSION

The results of the study indicate that the Children's Depression Inventory CDI is a valuable aid in the diagnosis of depression in childhood. The CDI showed a significant positive correlation with the clinician's rating of childhood depression, and can distinguish between depressed children, non-depressed children and children with emotional disorders other than depression. It was also found that the CDI was a good measure for severity of depression, and could differentiate between mild and moderate depression in a depressed sample.

Kovacs (1981) reported on a study of 875 Canadian school children who were administered the CDI, found that a cut-off score of 19 identified 10% of these children as being depressed. In the present study using 19 as a cut-off point 11% of the normal sample (n = 215) were found to be depressed. When the cut-off score of 19 was applied to the clinic sample the CDI wrongly diagnosed 48% of children as depressed. This could be attributed to the greater number of problem behaviors assumed to be present in the clinic group, many of whom had emotional disorders other than depression, but when clinically interviewed did not have depression as a primary diagnosis. Analysis of the study data, showed that if a score of 14 was arbitrarily chosen as the demarcation

point on the CDI between depressed and non-depressed children in the clinic sample, then the test demonstrated 63.3% agreement with the clinician's diagnosis. However, using this cut-off point, a further 33.3% of cases were diagnosed as depressed which were not recognized by the clinician, and 3.3% of cases were missed. Since the clinician's diagnosis was considered to be the criterion for depression in this study, it appears that the CDI is overinclusive. This was considered quite satisfactory, since it is preferable that a screening test should overdiagnose rather than underdiagnose and it is suggested that 14 would be a suitable cut-off score for diagnosing depression in clinic children, and a cut-off score of 19 should be used for normal school children.

Some understanding of the problems in the diagnosis and recognition of depression in children can be gained by examining reasons that might account for the discrepencies between the CDI and clinician's diagnoses. The CDI as noted previously, is based on the Beck Depression Inventory for adult depressions, with the assumption that adult and childhood depression are similar entities. An examination of some typical case notes (Appendix H) shows that some childhood depressions do not present with symptoms similar to adult depression, and that the clinician in order to arrive at a diagnosis utilzies information which includes parent and teacher observations, other psychological assessments, and information from direct interviews. The comprehensive nature of this assessment may tap much wider

areas of psychopathology. It may be that unless the depressive syndrome shows the more typical depressive symptoms such as sadness, tearfulness, low self-esteem and self-criticism, the CDI will not identify it. This is seen in case 169 (Appendix H) where the CDI scores 6, but the clinician diagnosed the child as severe depression. Similarly, case no. 183 (Appendix H) which shows good agreement between the CDI and the clinician's diagnosis, has many of the features of adult depression including withdrawal, irritability, unhappiness and low self-worth. That the clinician and the CDI were not measuring the same variables in many cases is also shown by examining the correlations between the two. The correlation between the CDI and the clinician's rating of depression was found to be significant ($r = .48$). This This produced a coefficient of determination of $r = .23$, implying that the clinician and the CDI may be utilizing the same symptoms in arriving at a diagnosis in only 23% of cases. In the remaining 77%, different symptoms may have been used, strengthening the belief that there is a spectrum of childhood depressive disorders, only some of which are equivalent to adult depressions.

A further explanation of the over inclusiveness of the CDI relates to the study of the normal sample. As reported in Tables 8 and 9, certain items on the CDI had a much higher frequency of positive responses than might have been expected. For example, children in all grades scored highly on item 13 which is related to the Beck Depression item of

indecisiveness. This suggests that problems in decision making may be common to prepubertal children, and have developmental significance but not be evidence of psychopathology. Also, it was noted that a large number of children in grades two, three, four and six claimed suicidal ideation (CDI item 9). The literature suggests that suicidal ideation is an important symptom in depression, and may even act as "a barometer of the severity of depression in many young people" (Carlson and Cantwell 1982, p. 367). Suicidal ideation correlates significantly with feelings of hopelessness which are considered to be analogous to cognitive negative expectations in depressed adults (Minkoff, Berman, Beck and Beck, 1973). It appears that in prepubertal children these observations may not apply, suicidal ideation in these cases not having the same significance. The reason for this may relate to an inability of young children to conceptualize the finality of death, or they may consider suicide as a temporary relief from problems, rather than a permanent solution.

Overall, in the CDI test responses, grade six children in the normal sample reported more depressive symptoms than other grades. Grade six may be a particularly trying year for children. It is the last year of elementary school, and for many children marks the beginning of puberty. These events may be associated with anxiety and insecurity which are general in the age group, which lead to responses on the CDI usually associated with depression. Similarly,

grade three children appeared preoccupied with making friends, which may be synonomous with the development of social skills, and may be age appropriate.

Following the literature review, it had been expected that the CDI and the clinician's rating of depression would correlate highly with the eight factors on the Conner's Parent's Symptom Questionnaire. This only proved the case for two factors, anti-social behavior, and hyperactive/ impulsive behavior. Anti-social behavior on the CPSQ relates to stealing and police involvement, but does not include fighting, being mean to others, and bullying, which make up the separate factor of conduct disorder. This is different than the DSM III definition of conduct disorder which includes all the above behaviors, and may suggest a need to differentiate the diagnosis of anti-social behavior and conduct disorder, only the anti-social behavior being associated with depression.

It should be noted that both the CDI and the clinician's rating of depression correlated significantly for this factor. The association of anti-social behavior and depression has been well documented (Carlson and Cantwell, 1980: Cytryn and McNew, 1972, 1980; Herzog, 1980; Kashani, 1981). Puig Antich (1982) found that 1/3 of a sample of depressed prepubertal boys fitted the DSM III criteria for conduct disorder and commented that "a major depressive syndrome may play an important role in the emergence and persistance of conduct disorder behavior patterns" (p. 125). These findings are of

particular importance to the teacher who should be alert to the possibilities of depression in children who appear with anti-social behavior in the school setting.

The CSPQ factor for hyperactivity/impulsivity correlated significantly with the CDI rating of depression, but not the clinician's rating. This is of considerable importance to the teacher, since it has been reported that up to 5% of children display hyperactivity in school (Noshspitz, 1979). Some of these hyperactive children may be depressed and should be dealt with accordingly. Studies have demonstrated that hyperactive children improve as a result of anti-depressant medication, (Gross, 1973; Werry, 1980) implying that the underlying problem might be depression (Brumbeck and Weinberg, 1977; Brumbeck and Staton, 1983). Of course, the anti-depressant medication may have an effect on the hyperactivity itself, and alleviate the depression which is secondary to the consistent negative responses elicited by the child being out of control. It is clear that much research needs to be done in this area.

The self-report measures used in the study may also be responsible for some of the disparity between the CDI, CPSQ and the clinician's rating of depression. Self-report measures have been criticized on a number of grounds including their reliance on the individual reporting his feelings honestly. The CDI is completed by the child who may either deny symptoms, or only respond to items considered socially desirable. Parents in completing the CPSQ may be

biased, in only reporting behaviors they find irritating or a nuisance, and this may differ depending on individual tolerances and expectations. Self-report scales are affected by client cooperation, attention span, level of cognition and language development, and require a reasonable level of reading comprehension. In young children this is especially so, and items referring to dislike of school, problems in doing homework, and difficulty in making friends, may have different connotations depending on levels of affective and cognitive development. It is also questionable whether all children can remember their state of affect over a two week period as required by the CDI. Such children may respond in the present only, the test result being an indication of their feelings only at the time of testing.

A further study might examine the serial administration of the CDI to the same children over time to test for the constancy of responses. Overall, however, children have proved to be more reliable than their parents in being aware of their feeling state (Toolan, 1982). These problems do not negate the value of the CDI, but merely point out the danger of oversimplifying what is a very complex situation, and emphasizes the need for a full examination of developmental, historical, psychological and sociological issues in developing a diagnostic test battery for the assessment of childhood depression. The CDI is not significantly affected by socioeconomic status, sex, age and grade levels, and could be used successfully as a simple screening device in the

classroom for identifying childhood depression.

Limitations of the Study

The main objective of the study was to determine the validity of the CDI. A number of limitations in the study must be noted, and taken into consideration. Psychiatric referrals may have more conduct and behavioral problems than seen at other agencies. The clinic sample used in the study may be biased in finding more children with anti-social behavior, and therefore, generalizations must be made with caution. Future studies should also examine referrals from other agencies such as educational clinics and special learning centres, etc. The majority of the clinic sample seen in this study were males with very few females represented. This may be difficult to avoid, as there is generally a greater preponderance of prepubertal boys with emotional and learning problems (Puig-Antich et. al 1979, Kashani, 1981).

A further limitation of the study is that only two rating scales were utilized, and a third measure could have been introduced to support the diagnosis of depression. For example, low self-esteem and hopelessness have been reported to correlate highly with depression. A children's self-esteem measure or hopelessness scale should be included in future studies.

The CPSQ only records the parents perception of the child's problem. A rating scale such as the Conner's

Teacher's Rating Questionnaire would have been very useful to determine the teacher's opinion of the children's behaviors and problems in the classroom. A comparison could then be made between the parent's rating, teacher's rating, clinician's rating and the CDI, for a more comprehensive picture of the importance of childhood behaviors, and conduct problems as symptoms of depression. Unfortunately, at the time of the study these additional assessments were logistically unfeasible.

It would also be valuable to have each clinic child independently diagnosed by another psychiatrist, to further verify the validity and reliability of the clinician's diagnoses.

Another limitation was that the normal school sample was not assessed for possible depression by the clinician, and a CPSQ was not completed by their parents. This would have been useful in obtaining more normative data on depressive symptomology and mood disturbance in prepubertal children, and this group would have then acted as a better control for the clinic sample.

Future Research

Adult depressive illness has been broken down into a number of subtypes based on presentation of symptoms, course, outcome, genetic, familial and personality characteristics. This remains to be done with childhood depression. In this

study the type of depression was not controlled, and the term childhood depression was used to cover a spectrum of depressive disorders subsumed to be under the heading of depression. The lack of delineation of subtypes of childhood depression makes any study difficult, since failure to find significant results may relate to the inability of the measuring instrument to elucidate some types of depression and not others.

A particular concern is the recognition of depression as a cause of classroom failure. In this regard, prospective studies are required, and multifaceted test batteries need to be developed taking into account the different cognitive and behavioral repetoires of prepubertal children at different ages. Affective development in the well adjusted child, as well as the emotionally and behaviourally disturbed child need to be examined empirically, and the relevance of such behaviours as suicidal ideation, and sad affect to normal development needs to be further studied. It might also be useful to ascertain whether children experience the same life stresses as adults, and what their responses to these particular stresses are like.

Further efforts must be made to carry out more accurate and controlled studies, utilizing homogeneous groups regarding age, sex and type of clinic population. It is important to differentiate between childhood and adolescents, as often young adolescents are included in studies with prepubertal children.

Summary

This study suggests that the Children's Depression Inventory is a useful screening device for childhood depression, and could be used successfully in the classroom. The CDI is also a good severity measure for the syndrome of childhood depression. The results of the study emphasized the importance of anti-social behavior, and hyperactivity/ impulsivity as associated with childhood depression. However, some caution is necessary in translating adult depressive symptomatology into childhood depressive behaviors, and it appears that some of the usual features of adult depression are normal developmental phenomena of childhood. It is suggested that there is a spectrum of depressive disorders in children which requires further clarification, and much research is still required in all areas, relating to depression in children.

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APPENDIX A

THE DIAGNOSIS OF CHILDHOOD DEPRESSION

(DSM III)

Childhood depression as defined by the Diagnostic and Statistic Manual of Mental Disorders (DSM III, 1981) is a syndrome with the following characteristics:

A. Dysphoric Mood or Loss of Interest--Characterized by depression, sadness, hopelessness, irritability. Mood disturbance must be persistent but not necessarily predominant.

B. At least four of the following symptoms must have been present nearly everyday for a period of at least two weeks:

   i) Poor appetite, or significant weight loss or overeating and weight gain;

   ii) Insomnia and hypersomnia;

   iii) Psychomoter agitation or retardation;

   iv) Loss of interest or pleasure in usual activities, signs of apathy;

   v) Loss of energy, fatigue;

   vi) Feelings of worthlessness, self-reproach, or excessive or inappropriate guilt;

   vii) Complaints or evidence of diminished ability to think or concentrate, such as slow thinking or indecisiveness;

   viii) Recurrent thoughts of death, suicidal ideation, wishes to be dead, or suicide attempts. (Diagnostic and Statistic Manual of Mental Disorders. 3rd Edition. 1981. American Psychiatric Association, p. 213-214).

APPENDIX B

THE CHILDREN'S DEPRESSION INVENTORY

CDI INVENTORY

NAME: _____

DATE: _____ CASE NO.: | | | | | | | |

GRADE: _____ INTERVIEW NO.: | | |

FORM NO.: | 0 | 8 |

KIDS SOMETIMES HAVE DIFFERENT FEELINGS AND IDEAS.

THIS FORM LISTS THE FEELINGS AND IDEAS IN GROUPS. FROM EACH GROUP, PICK ONE SENTENCE THAT DESCRIBES YOU BEST FOR THE PAST TWO WEEKS.

AFTER YOU PICK A SENTENCE FROM THE FIRST GROUP, GO ON TO THE NEXT GROUP.

THERE IS NO RIGHT ANSWER OR WRONG ANSWER. JUST PICK THE SENTENCE THAT BEST DESCRIBES THE WAY YOU HAVE BEEN RECENTLY. PUT A MARK LIKE THIS X NEXT TO YOUR ANSWER. PUT THE MARK IN THE BOX NEXT TO THE SENTENCE THAT YOU PICK.

HERE IS AN EXAMPLE OF HOW THIS FORM WORKS. TRY IT. PUT A MARK NEXT TO THE SENTENCE THAT DESCRIBES YOU BEST.

EXAMPLE:

☐ I READ BOOKS ALL THE TIME

☐ I READ BOOKS ONCE IN A WHILE

☐ I NEVER READ BOOKS

Rev. 3/75 2/76 3/77, 1/78
Format change 8/79

REMEMBER, PICK OUT THE SENTENCES THAT DESCRIBE YOUR FEELINGS AND IDEAS IN THE PAST TWO WEEKS.

1. ☐ I AM SAD ONCE IN A WHILE
   ☐ I AM SAD MANY TIMES
   ☐ I AM SAD ALL THE TIME

2. ☐ NOTHING WILL EVER WORK OUT FOR ME
   ☐ I AM NOT SURE IF THINGS WILL WORK OUT FOR ME
   ☐ THINGS WILL WORK OUT FOR ME O.K.

3. ☐ I DO MOST THINGS O.K.
   ☐ I DO MANY THINGS WRONG
   ☐ I DO EVERYTHING WRONG

4. ☐ I HAVE FUN IN MANY THINGS
   ☐ I HAVE FUN IN SOME THINGS
   ☐ NOTHING IS FUN AT ALL

5. ☐ I AM BAD ALL THE TIME
   ☐ I AM BAD MANY TIMES
   ☐ I AM BAD ONCE IN A WHILE

6. ☐ I THINK ABOUT BAD THINGS HAPPENING TO ME ONCE IN A WHILE
   ☐ I WORRY THAT BAD THINGS WILL HAPPEN TO ME
   ☐ I AM SURE THAT TERRIBLE THINGS WILL HAPPEN TO ME

7. ☐ I HATE MYSELF
   ☐ I DO NOT LIKE MYSELF
   ☐ I LIKE MYSELF

8. ☐ ALL BAD THINGS ARE MY FAULT
☐ MANY BAD THINGS ARE MY FAULT
☐ BAD THINGS ARE NOT USUALLY MY FAULT

9. ☐ I DO NOT THINK ABOUT KILLING MYSELF
☐ I THINK ABOUT KILLING MYSELF BUT I WOULD NOT DO IT
☐ I WANT TO KILL MYSELF

10. ☐ I FEEL LIKE CRYING EVERYDAY
☐ I FEEL LIKE CRYING MANY DAYS
☐ I FEEL LIKE CRYING ONCE IN A WHILE

11. ☐ THINGS BOTHER ME ALL THE TIME
☐ THINGS BOTHER ME MANY TIMES
☐ THINGS BOTHER ME ONCE IN A WHILE

12. ☐ I LIKE BEING WITH PEOPLE
☐ I DO NOT LIKE BEING WITH PEOPLE MANY TIMES
☐ I DO NOT WANT TO BE WITH PEOPLE AT ALL

13. ☐ I CANNOT MAKE UP MY MIND ABOUT THINGS
☐ IT IS HARD TO MAKE UP MY MIND ABOUT THINGS
☐ I MAKE UP MY MIND ABOUT THINGS EASILY

14. ☐ I LOOK O.K.
☐ THERE ARE SOME BAD THINGS ABOUT MY LOOKS
☐ I LOOK UGLY

15. ☐ I HAVE TO PUSH MYSELF ALL THE TIME TO DO MY SCHOOLWORK
☐ I HAVE TO PUSH MYSELF MANY TIMES TO DO MY SCHOOLWORK
☐ DOING SCHOOLWORK IS NOT A BIG PROBLEM

REMEMBER, DESCRIBE HOW YOU HAVE BEEN IN THE PAST TWO WEEKS.

16. ☐ I HAVE TROUBLE SLEEPING EVERY NIGHT
☐ I HAVE TROUBLE SLEEPING MANY NIGHTS
☐ I SLEEP PRETTY WELL

17. ☐ I AM TIRED ONCE IN A WHILE
☐ I AM TIRED MANY DAYS
☐ I AM TIRED ALL THE TIME

18. ☐ MOST DAYS I DO NOT FEEL LIKE EATING
☐ MANY DAYS I DO NOT FEEL LIKE EATING
☐ I EAT PRETTY WELL

19. ☐ I DO NOT WORRY ABOUT ACHES AND PAINS
☐ I WORRY ABOUT ACHES AND PAINS MANY TIMES
☐ I WORRY ABOUT ACHES AND PAINS ALL THE TIME

20. ☐ I DO NOT FEEL ALONE
☐ I FEEL ALONE MANY TIMES
☐ I FEEL ALONE ALL THE TIME

21. ☐ I NEVER HAVE FUN AT SCHOOL
☐ I HAVE FUN AT SCHOOL ONLY ONCE IN A WHILE
☐ I HAVE FUN AT SCHOOL MANY TIMES

22. ☐ I HAVE PLENTY OF FRIENDS
☐ I HAVE SOME FRIENDS BUT I WISH I HAD MORE
☐ I DO NOT HAVE ANY FRIENDS

23. ☐ MY SCHOOL WORK IS ALRIGHT
☐ MY SCHOOLWORK IS NOT AS GOOD AS BEFORE
☐ I DO VERY BADLY IN SUBJECTS I USED TO BE GOOD IN

24. ☐ I CAN NEVER BE AS GOOD AS OTHER KIDS
☐ I CAN BE AS GOOD AS OTHER KIDS IF I WANT TO
☐ I AM JUST AS GOOD AS OTHER KIDS

25. ☐ NOBODY REALLY LOVES ME
☐ I AM NOT SURE IF ANYBODY LOVES ME
☐ I AM SURE THAT SOMEBODY LOVES ME

26. ☐ I USUALLY DO WHAT I AM TOLD
☐ I DO NOT DO WHAT I AM TOLD MOST TIMES
☐ I NEVER DO WHAT I AM TOLD

27. ☐ I GET ALONG WITH PEOPLE
☐ I GET INTO FIGHTS MANY TIMES
☐ I GET INTO FIGHTS ALL THE TIME

THE END

THANK YOU FOR FILLING OUT THIS FORM

SUM: _____

ADMINISTRATION: O. INDIVIDUAL
I. GROUP

APPENDIX C

THE CONNERS' PARENT'S QUESTIONNAIRE

CONNERS PARENT SYMPTOM QUESTIONNIARE

Name of Child _____ Date _____

Your Name _____ Relationship _____

Instructions: Listed below are items concerning children's behaviour or the problems they sometimes have. Read each item carefully and decide how much you think your child has been bothered by this problem *during the past month* —
NOT AT ALL, JUST A LITTLE, PRETTY MUCH or VERY MUCH
Indicate your choice by placing a check mark (√) in the appropriate column to the right of each item.

ANSWER ALL ITEMS

Observation	Not at All	Just a little	Pretty Much	Very much
PROBLEMS OF EATING				
1. Picky and finicky				
2. Will not eat enough				
3. Overweight				
PROBLEMS OF SLEEP				
4. Restless				
5. Nightmares				
6. Awakens at night				
7. Cannot fall asleep				
FEAR AND WORRIES				
8. Afraid of new situations				
9. Afraid of people				
10. Afraid of being alone				
11. Worries about illness and death				
MUSCULAR TENSION				
12. Gets stiff and rigid				
13. Twitches, jerks, etc.				
14. Shakes				
SPEECH PROBLEMS				
15. Stuttering				
16. Hard to understand				
WETTING				
17. Bed wetting				
18. Runs to bathroom constantly				
BOWEL PROBLEMS				
19. Soiling self				
20. Holds back bowel movements				
COMPLAINS OF FOLLOWING SYMPTOMS EVEN THOUGH DOCTOR CAN FIND NOTHING WRONG				
21. Headaches				
22. Stomach aches				
23. Vomiting				
24. Aches and pains				
25. Loose bowels				
PROBLEMS OF SUCKING, CHEWING or PICKING				
26. Sucks thumb				
27. Bites or picks nails				
28. Chews on clothes, blankets, or others				
29. Picks at things such as hair, clothing, etc.				
CHILDISH OR IMMATURE				
30. Does not act his age				
31. Cries easily				
32. Wants help doing things he should do alone				
33. Clings to parents or other adults				
34. Baby talk				
TROUBLE WITH FEELINGS				
35. Keeps anger to himself				
36. Lets himself get pushed around by other children				
37. Unhappy				
38. Carries a chip on his shoulder				

TRITES, OTTAWA

ANSWER ALL ITEMS

Observation	Not at All	Just a little	Pretty much	Very much
OVER-ASSERTS HIMSELF				
39. Bullying				
40. Bragging and boasting				
41. Sassy to grown-ups				
PROBLEMS MAKING FRIENDS				
42. Shy				
43. Afraid they do not like him				
44. Feelings easily hurt				
45. Has no friends				
PROBLEMS WITH BROTHERS AND SISTERS				
46. Feels cheated				
47. Mean				
48. Fights constantly				
PROBLEMS KEEPING FRIENDS				
49. Disturbs other children				
50. Wants to run things				
51. Picks on other children				
RESTLESS				
52. Restless or over active				
53. Excitable, impulsive				
54. Fails to finish things he starts – short attention span				
TEMPER				
55. Temper outbursts, explosive and unpredictable behaviour				
56. Throws himself around				
57. Throws and breaks things				
58. Pouts and sulks				
SEX				
59. Plays with own sex organs				
60. Involved in sex play with others				
61. Modest about his body				
PROBLEMS IN SCHOOL				
62. Is not learning				
63. Does not like to go to school				
64. Is afraid to go to school				
65. Daydreams				
66. Truancy				
67. Will not obey school rules				
LYING				
68. Denies having done wrong				
69. Blames others for his mistakes				
70. Tells stories which did not happen				
STEALING				
71. From parents				
72. At school				
73. From stores and other places				
FIRE-SETTING				
74. Sets fires				
TROUBLE WITH POLICE				
75. Gets into trouble with the police				
Why?				
PERFECTIONISM				
76. Everything must be just so				
77. Things must be done same way every time				
78. Sets goals too high				
ADDITIONAL PROBLEMS				
79. Inattentive, easily distracted				
80. Constantly fidgeting				
81. Cannot be left alone				
82. Always climbing				
83. A very early riser				
84. Will run around between mouthfuls at meals				

TRITES, OTTAWA

85.	Demands must be met immediately – easily frustrated				
86.	Cannot stand too much excitement				
87.	Laces and zippers are always open				
88.	Cries often and easily				
89.	Unable to stop a repetitive activity				
90.	Acts as if driven by a motor				
91.	Mood changes quickly and drastically				
92.	Poorly aware of surroundings or time of day				
93.	Still cannot tie his shoelaces				

II. Please add any problems you have with your child _____

III. How serious a problem do you think your child has at this time?
( ) No Problem ( ) Minor Problem ( ) Serious Problem

IV. Indicate the items you are most concerned about or those you think are the most important problems your child has by placing a circle around the number (1-93) of those items.

How would you rate the child's behaviour compared to other children the same age?
much worse _____ worse _____ about the same _____ better _____ much better _____

1. Please fill in the following information about each member of the child's immediate family. (Please print clearly).

NAME	Relationship To Child	Age	Date of Birth	Occupation (Grade if a Student)	General Health	Height	Weight

2. What did the child eat for breakfast *this* morning? (Specify Type of Cereal)

What is his *usual* breakfast?

What is the usual breakfast of the other children?

3. What school is the child presently attending?

Teacher's Name: Principal's Name:

TRITES, OTTAWA

FAMILY HISTORY OF READING PROBLEMS

I. **Parents**

A. Mother:

1. Do you have any reading difficulty?
   Yes _____ No _____
2. Do you read a daily newspaper?
   Yes ____ No ___ If so, which newspaper?
   _____
3. Do you read any magazines?
   Yes ____ No ____ If so, what magazines?
   _____
4. Do you read books?
   Yes ____ No ____ If so, what books have you read recently? _____
5. What is the highest grade you completed in school? _____
6. Occupation _____

B. Father:

1. Do you have any reading difficulty?
   Yes ____ No _____
2. Do you read a daily newspaper?
   Yes ____ No _____ If so, which newspaper?
3. Do you read magazines?
   Yes ____ No _____ If so, what magazines?
4. Do you read books?
   Yes ____ No _____ If so, what books have you read recently? _____
5. What is the highest grade you completed in school? _____
6. Occupation _____

II. **Siblings**

A. Do you have any other children?
   Yes _____ No _____

B. Have any of them had difficulty in learning how to read?
   Yes _____ No ____ Any present reading problems?
   Yes _____ No ____

C. Have any of your children ever been held back a year in school?
   Yes ____ No _____

D. What is the highest grade that each of your children have completed in school?
   ___ ; ___ ; ___ ; ___ ; ___ ; ___ ; ___ ;

III. **Mother's siblings**

A. Have any of your brothers or sisters had any reading difficulty? Yes _____ No _____

B. What was the highest grade completed in school by each of them? ___ ; ___ ; ___ ; ___ ; ___ ; ___ ;

IV. **Father's siblings**

A. Have any of your brothers or sisters had any reading difficulty? Yes _____ No _____

B. What was the highest grade completed in school by each of them? ___ ; ___ ; ___ ; ___ ; ___ ; ___ ;

V. **Grandparents**

A. Mother's parents:

1. Has either your mother or father had any reading difficulty? Yes _____ No _____
   If so, which one? _____
2. What grade did your mother complete? _____
   father? _____

B. Father's parents:

1. Has either your mother your father had any reading difficulty? Yes _____ No _____
   If so, which one? _____
2. What grade did your mother complete? _____
   father? _____

VI. **Other relatives**

A. Mother's relatives:

1. Have any other relatives in your family had reading difficulties? Yes ____ No _____
   If so, which one? _____
   Grade level _____

B. Father's relatives

1. Have any other relatives in your family had reading difficulties? Yes ___ No _____
   If so, which one? _____
   Grade level _____

VII. **Subject**

A. Did subject have any difficulty learning to read? _____
B. Was subject ever held back in school because of the difficulty? _____
C. Does the subject do much reading outside of school work? _____
D. Does the subject read:
   1. A daily newspaper? _____
   2. Any magazines? _____
   3. Any books? _____
   4. Comic books? _____

III. **Comments** _____

_____

_____

_____

_____

_____

_____

TRITES, OTTAWA

NAME _____ DATE _____ EX _____ TEST # _____

CONNERS PARENT SYMPTOM QUESTIONNAIRE

Factor Title		*Items to be Summed*	*Total Sum*	*Total Possible*	%
I	Conduct Problem-	39 40 41 47 48 51 69		21	
II	Anxiety	8 9 10 11 42 64 43		21	
III	Impulsive – Hyperactive	79 80 81 82 83 84 89 90		24	
IV	Learning Problem	45 62 63 67		12	
V	Psychosomatic	6 21 22 23 24		15	
VI	Perfectionism	76 77 78		9	
VII	Antisocial	71 72 73 75		12	
VIII	Muscular Tension	12 13 14 36		12	

Total Score _____ Total Possible 279 % _____

APPENDIX D

CLINICAL INTERVIEW FOR THE DIAGNOSIS OF CHILDHOOD DEPRESSION

Clinician's Diagnosis of Childhood Depression

To diagnose the syndrome of childhood depression the following conditions were considered necessary:

(1) A history of one or more of the following:

a) Sadness, tearfulness

b) Irritability or aggression

c) Withdrawal

d) Eating or sleeping problems

e) School related difficulties

f) Suicidal ideals or actions

The symptoms must be present for at least one month, and be serious enough to worry parents or teachers. These behaviors must be considered unusual for the child. Supporting evidence includes a history of depressive illness in the family and obvious environmental stresses.

(2) Mental status examination of the child at interview:

a) Appearance. Sadness as evidenced by demeanor; posture, avoidance of gaze, speech (quantity and quality), tiredness and listlessness, irritability.

b) Cognitive process. Attention and concentration difficulties; preoccupation with sad or morbid thoughts; verbalization reflecting poor self-worth and low self-esteem; friendlessness; feeling picked upon; feeling depressed and expression of suicidal thoughts.

c) Dreams and fantasies. Quantity and quality of dreams, particularly nightmares and "bad dreams". Themes reflecting anger and destruction.

d) Drawings. Depression as evidenced by subject matter and detail.

e) Emotional contact with the examiner.

A global rating of depression was made based on the history and mental status examination as outlined. Seriousness of the depression was judged by the severity of the presenting symptoms, the degree of concern of the parents or teachers. These behaviors must be considered unusual for the child. Supporting evidence includes a history of depressive illness in the family and obvious environmental stresses.

APPENDIX E

CLINICIAN'S RATING SCALE

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
FACULTY OF EDUCATION
THE UNIVERSITY OF ALBERTA

RESEARCH PROJECT: Depression in Children

RESEARCHER: Cynthia Blackman, B.Ed.

This project is aimed at investigating the presence of depression in elementary school children, grades 2 - 6, referred for psychiatric examination.

Your cooperation is requested in completing this form.

* * * * * *

Dr. Blackman

Date:

Patient's Name: _____

Age: _____

School: _____

Not Depressed

Mildly Depressed

Moderately Depressed

Severely Depressed

6-102 EDUCATION NORTH, EDMONTON, ALBERTA, CANADA • T6G 2G5 • TELEPHONE (403) 432-5245

APPENDIX F

CONSENT LETTER FOR CLINIC CHILDREN

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
FACULTY OF EDUCATION
THE UNIVERSITY OF ALBERTA

Dear Parent:

I am engaged in a study of depression in children, and in investigating the relationship between depression and poor achievement at school.

To assist in this investigation your consent is required to administer to your child a simple pencil and paper questionnaire which takes about 30 minutes to complete. It would also be appreciated if you would also complete a questionnaire to aid us in this task.

This study will be quite confidential and no names will be used in presentation of the results.

Your cooperation in this endeavor would be much appreciated, and it is hoped that the results of the study will be of benefit to the schools in more quickly identifying children with emotional difficulties which require professional treatment.

I would also request that you give consent for me to obtain information from the school in reference to academc assessments and testing. This will of course also be kept confidential and only used for the study purposes.

Cynthia Blackman, B.Ed.

* * *

I, ... consent to allow myself and my child ..... to participate in the above study as outlined.

....
Date Signature of Parent or Guardian

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APPENDIX G

CONSENT LETTER FOR NON-CLINIC CHILDREN

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
FACULTY OF EDUCATION
THE UNIVERSITY OF ALBERTA

Dear Parent:

We would like your permission to administer a questionnaire to your child as part of a survey to find a useful screening instrument for some emotional problems in school children.

Depression in particular is known to affect school work, and may not be obvious in children until far advanced.

Your child has been selected to be part of a normal control group which is necessary to have as a comparison with disturbed younsters.

The procedure involves the administration of a simple pencil and paper test that takes about 30 minutes. The results of course will be confidential and your child's name will not be used during the study. Approval has been given for this study by the Edmonton Public School Board.

Your cooperation is very much appreciated.

Cynthia Blackman, B.Ed.

I agree/disagree with my child taking part in this study.

_____
Child's Name

_____ _____
Date Signature of parent or guardian

6-102 EDUCATION NORTH, EDMONTON, ALBERTA, CANADA • T6G 2G5 • TELEPHONE (403) 432-5245

APPENDIX H

THREE CLINICAL CASE STUDIES

CASE REPORT (I.D. 169)

CDI SCORE: 6 CLINICIAN'S DIAGNOSIS: Severe Depression

There was agreement between the CDI scores and the clinician's rating.

A six and a half year old boy presented with a history of gradual decompensation since the marital separation of his parents. This decompensation involved problems in school, including inability to complete his assignments in the classroom, difficulty relating to peers, and tearful irritable behavior. There was also a history of sleep disturbance, including bad dreams and difficulty getting off to sleep. These problems culminated in a number of episodes of abdominal discomfort and vomiting with no obvious physical cause.

The child's developmental history was normal. He was the only child of the marriage which had broken up, with much anger and hostility between the parents. The child was often in the centre of these conflicts, and while both parents were individually kind to him, conflict arose over visiting rights and access.

At interview, the child presented as a rather quiet, taciturn boy who denied any difficulties apart from abdominal

pains. Questioning in relationship to the problems listed above elicited tears. There was no obvious cognitive or perceptual disturbance. He was not suicidal.

CASE REPORT (I.D. 183)

CDI SCORE: 21 CLINICIAN'S DIAGNOSIS: Moderate Depression

There was agreement between the CDI score and the clincian's rating.

An eight year old male was referred following suspension from school for aggressivness, and was described as a recent severe management problem at home.

Developmental milestones were normal. Mother identified a change in behavior following her recent marriage to her boyfriend, with whom she had been living with since this child's infancy.

According to the mother, since the marriage the child had become withdrawn, sulky, oppositional, extremely irritable and unhappy. She could not understand why this was so.

This child was from a previous relationship, and had been brought up by numerous babysitters whilst the mother worked. There was evidence of inconsistent parenting, a suspicion of parental neglect, although in her own way the mother appeared to be quite caring for this child.

At interview the child was oppositional, sulky and tearful, but was unable to verbalize any difficulties. He

was of average intelligence, and showed no evidence of perceptual or cognitive disturbance. He was not suicidal.

Psychological assessment revealed a restless, unhappy boy, with a low self-worth, withdrawal, and unsatisfactory social skills with poor peer relationships. There was no evidence of academic difficulties.

CASE REPORT (I.D. No. 133)

CDI SCORE: 21 CLINICIAN'S DIAGNOSIS: (1) Attention Deficit Disorder with Hyperactivity
(2) Secondary Mild Depression

There was no agreement between the CDI scores and the clincian's diagnosis of depression.

A seven year old child with a history of school related conduct problems including out of control behavior in the classroom, bullying and poor peer and teacher relationships and associated hyperactivity, was referred for treatment. He was reported by parents as having a high anxiety level, unusual sensitivity and was occasionally encopretic.

Developmental history revealed a difficult birth requiring Caesarean Section, with some slowing of the heart rate. Developmental milestones were normal. He was toilet trained at 19 months, but lost this on the birth of a younger male sibling now aged 5 1/2 years.

This boy's problems were first noted in kindergarten at which time he was called hyperactive and impulsive. School difficulties have continued although these difficulties have

been attributed to a lack of motivation. At the initial interview he was cheerful and cooperative. Clinical neurological examination showed the presence of "soft signs", including difficulties in fine motor coordination and auditory perceptual problems. Psychological evaluation showed him to be of average intelligence, and confirmed the presence of mild auditory attention deficits and visual motor coordination difficulties.